www.africanreview.com

Europe €10, Ghana C1.8, Kenya Ksh200, Nigeria N330, South Africa R25, UK £7, USA $12

African Review

MARCH 2019

of BUSINESS and TECHNOLOGY

"The days of conflict between industry and government should belong to the past"
President Cyril Ramaphosa

55 YEARS
SERVING BUSINESS IN AFRICA SINCE 1964

Audit Bureau of Circulations - Business Magazines

Cover picture: Smart city
© Adobe Stock
Cover Inset: President Cyril Ramaphosa
© GCSI/Flickr

Editor: Samantha Payne
Email: samantha.payne@alaincharles.com

Editorial and Design team: Prashanth AP, Fyna Ashwath, Miriam Brtkova Praveen CP, Manojkumar, Emmet McGonagle, Nonalynka Nongrum Rhonita Patnaik, Rahul Puthenveedu, Deblina Roy, and Louise Waters

Managing editor: Georgia Lewis

Contributing editor: Martin Clark

Publisher: Nick Fordham

Sales Director: Michael Ferridge

Magazine Manager: Serenella Ferraro
Tel: +44 207 834 7676 Fax: +44 207 973 0076
Email: serenella.ferraro@alaincharles.com

India — **TANMAY MISHRA**
Tel: +91 80 65684483
Email: tanmay.mishra@alaincharles.com

Nigeria — **BOLA OLOWO**
Tel: +234 80 34349299
Email: bola.olowo@alaincharles.com

UAE — **MURSHID MUSTAFA**
Tel: +971 4 448 9260 Fax: +971 4 448 9261
Email: murshid.mustafa@alaincharles.com

UK — **MICHAEL FERRIDGE**
Tel: +44 20 7834 7676 Fax: +44 20 7973 0076
Email: michael.ferridge@alaincharles.com

USA — **MICHAEL TOMASHEFSKY**
Tel: +1 203 226 2882 Fax: +1 203 226 7447
Email: michael.tomashefsky@alaincharles.com

Head Office: Alain Charles Publishing Ltd, University House, 11-13 Lower Grosvenor Place, London SW1W 0EX, United Kingdom
Tel: +44 (0)20 7834 7676, Fax: +44 (0)20 7973 0076

Middle East Regional Office: Alain Charles Middle East FZ-LLC, Office L2-112, Loft Office 2, Entrance B, PO Box 502207, Dubai Media City, UAE,
Tel: +971 4 448 9260, Fax: +971 4 448 9261

Production: Srinidhi Chikkars, Nelly Mendes and Infant Prakash
E-mail: production@alaincharles.com

Chairman: Derek Fordham

Printed by: Buxton Press

Printed in: MARCH 2019

ISSN: 0954 6782

SUBSCRIPTIONS:

Rates for one year (11 issues):
Europe €107, Kenya KSh3400, Nigeria N6600, South Africa R460, United Kingdom £77, US$140

To subscribe: visit **www.africanreview.com/subscribe**
For any other enquiry email circulation@alaincharles.com

Alain Charles Publishing
Serving the world of business

Editor's Note

Welcome to our special technology issue. Our cover story on the Fourth Industrial Revolution looks at the role disruptive technologies, such as the Internet of Things, AI and robotics, will play in transforming businesses and societies, (pages 20 and 21).

The African freight industry looks positive for 2019, despite a 1.3 per cent dip in freight volumes in 2018. That's according to Muhammad Al Bakri, IATA's Vice President for Africa and the Middle East, (pages 26 and 27).

In the power section, legal reforms in Egypt and Ethiopia are having a positive effect on the influx of foreign direct investment into the renewable sector (page 32), and micro-hydropower stations in central Kenya are reducing the energy costs for the Kenya Tea Development Agency, which operates 68 tea factories in the area (page 34).

Finally, we look at some highlights that were announced during the 25th Investing in African Mining Indaba in Cape Town last month, including President Cyril Ramaphosa's historic address at the show (page 46).

Samantha Payne, *Editor*

Contents

Research: Optimisation of different biofilm reactors for water treatment in Egypt

Image Credit: s::can Messtechnik GmbH

Technical University of Berlin (TUB) Campus El Gouna, Egypt.

s::can Messtechnik GmbH, online water quality monitoring service provider, has announced that it will deploy its technology at a wastewater treatment plant in El Gouna, Egypt, aiming to enable modelling and dynamic simulation of different biological processes.

The wastewater of the tourist city El Gouna in Egypt is treated in a central activated sludge wastewater treatment plant. Despite the city's growth and therefore increase in inflow to the WWTP-site, new constructions are not allowed.

The application of biofilm carriers aims to provide an innovative solution as they allow the upgrading of existing WWTPs without building new tanks. However, since it is a relatively new procedure compared to conventional activated sludge systems, there are some uncertainties in their design, transformation processes and performance.

To increase the treatment capacity regarding chemical oxygen demand (COD) removal and nitrification, it is necessary to understand the influence of different parameters in the biological cleaning process. Using a self-developed sampling system together with the s::can online monitoring system, four different sample points are measured.

A spectro::lyser, an ammo::lyser and an oxi::lyser are used to measure COD, TSS, NO3, NH4, pH, O2 and temperature in the inflow and three different effluent streams. The sensors are connected to a con::cube, an operating panel with moni::tool, a software platform, which registers all data in accordance with a time control and makes them available and visible via online access.

The aim of the project is to use this data to determine ideal process conditions and the maximum capacity of the WWTP with respect to the upgrade option of hybrid biofilm carrier applications. Ultimately, the collected data will be used to calibrate a model in Simba to enable a recalculation of other overloaded plants in Egypt.

Carsten Riechelmann who works for the Water Engineering Department at Campus El Gouna of the Technical University Berlin to support the city services through a test to increase the WWTP's capacity, said that the s::can online monitoring system observes differences between the three processes.

FPT INDUSTRIAL EXPANDS AFRICA AND MIDDLE EAST OPERATIONS

FPT Industrial is broadening its business in Africa and Middle East through a partnership with a new dealer in Egypt. M. Ahmed Daoud & Co, with its main office in Cairo, is now responsible for sales and services of engines for industrial applications, power generation, agriculture pumps and firefighting. The dealer will also provide stock and sales of genuine FPT spare parts.

FPT Industrial already has a strong presence in Morocco, Algeria, Tunisia, Democratic Republic of Congo, Angola and South Africa. The new partnership will expand the brand's position in the continent and unveil the potential of the Egyptian market. M. Ahmed Daoud & Co was chosen because of its solid experience in the power generation segment, technical product expertise and after sales services efficiency.

FPT Industrial is a brand of CNH Industrial, dedicated to the production and sale of powertrains for on and off-road vehicles, marine and power generation applications and offers a wide range of engines.

PREFERENTIAL TARIFFS TO HELP WESTERN SAHARA TO DEVELOP

The European Parliament has backed a proposal to lower tariffs in the territory of Western Sahara to the same level as Moroccan tariffs, to benefit local populations, a move in which Western Sahara will enjoy preferential trade tariffs on its exports to the EU.

Parliament gave the green light by 444 votes to 167 and 68 abstentions, to extend the preferential tariff rates to the territory of Western Sahara after the European Commission and Morocco agreed on a traceability mechanism, which helps define the origin of products exported from the territory. This mechanism was requested by the Committee on International Trade prior to its recommendation for consent.

The aim is to ensure that the products coming from Western Sahara can be clearly tracked, to make sure the benefits of the lower tariffs go to the local population and that they are measurable, a key condition to MEPs' backing.

Tariff preferences will have a positive effect

In the accompanying resolution, adopted by 442 votes to 172 with 65 abstentions, the MEPs emphasised, "The [local] Sahrawi people have the right to develop while awaiting a political solution" on the status of the area of Western Sahara. Preferential trade tariffs granted to Morocco were withdrawn from the territory following a 2016 decision of the EU Court of Justice.

MEPs also point out that the tariff preferences enjoyed by the territory between 2013 and 2016 had a positive impact on the agricultural and fisheries sector, investment in infrastructure, health and education. The non-application of the preferences, on the other hand, would have "adverse effects," they said.

After the Parliament's consent, the Council is expected to conclude the agreement, which will then enter into force.

BRIEFS

New sanitation project in Tunisia

Image Credit: Adobe Stock

The project will promote better conditions of health, hygiene and the environment.

The African Development Bank (AfDB) and the European Bank for Reconstruction and Development (EBRD) have invested US$171mn to improve sanitation in small municipalities in Tunisia. This programme is aligned with the strategies of both water and sanitation institutions and will include the construction of 24 new wastewater treatment plants, the expansion of 862 kilometres of sanitation network systems and the construction of 30 new pumping stations.

Averda wins waste recovery contract in Morocco

Image Credit: Averda

Averda will install a new waste treatment facility in Tangier.

Averda has won a 20-year contract with Tangier city in Morocco for advanced waste treatment services.

A team of local and international engineers is guiding the conception, construction and management of an ultra-modern site including the installation of a new waste treatment facility.

The team will also lead the deployment of a new organic waste composting centre, sanitary landfill and gas recovery and leachate treatment units.

AMDC changes hands as Africa's mining sector continues streamlining initiative

After a six-and-a-half year partnership, the Economic Commission for Africa has handed over the African Minerals Development Centre (AMDC) to the African Union Commission (AUC).

Although Africa has a long history of mining, the weak integration of the mining sector into national economic and social activities has left a crack in the sector's profitability. Therefore, the AMDC was first endorsed in 2011 as an flagship project in order to better integrate mining into Africa's growing economy,


Image Credit: Adobe Stock

The ADMC was first established in order to promote mineral resources in Africa's economic development.

Alongside the Africa Mining Vision (AMV) – an initiative which was adopted in 2009 in order to ensure minerals played a role in developing the continent's economic and structural transformation – the ADMC has been working with member states to promote the role of mineral resources in the development of the continent through increased economic and social linkages.

The mission of the centre is to work with member states and their national and regional organisations to promote the transformative role of mineral resources in the development of the continent through increased economic and social linkages.

Speaking at the handover ceremony, Vera Songwe, executive secretary of the ECA, thanked the AUC for trusting the organisation with overseeing the AMDC's progress over the years. She said, "It is with great pride that we are gathered here to celebrate having a viable AMDC, which is now transitioning into an AU Specialised Agency. This handover is therefore an important milestone. It underscores the concrete programmes, partnerships and prospects that demonstrate AMDC's role as a facilitator of choice, for African countries and their global partners seeking to realise AMV aspirations."

Songwe also highlighted the importance of future collaborations among AMDC's partners and stakeholders in improving Africa's economic stability. She continued, "Now we must ensure that AMDC's work goes forward, as Africa strives to assert its agency in the strategic management of its mineral resources. Our credibility depends on the extent to which we remain true to Africa's historic imperative for an AMV paradigm. That imperative applies yesterday, today and tomorrow."

The AMDC will be hosted at the AUC before moving to a host country.

EU BUILDS BRIDGES ON ETHIOPIA-ERITREA DIVIDE

The EU Commissioner for International Cooperation and Development Neven Mimic has launched a US$22.7mn project for road connections between the Ethiopian border and Eritrean port of Massawa.

On a visit to Eritrea, Mimic met with President Isaias Afwerki to discuss how best to improve political relations between the neighbouring countries in the wake of their two-decade border conflict. Last year, Ethiopia and Eritrea signed a peace deal at the Saudi Arabia summit. This pact led to the reopening of two land border crossings, which had been closed since the conflict first started.

Speaking of the project, Mimic said, "The EU is committed to supporting Eritrea and Ethiopia in delivering their historic peace agreement, which ended twenty years of conflict. To back this, we are launching a programme to rebuild the roads connecting both countries. This will boost trade, consolidate stability, and have clear benefits for the citizens of both countries through the creation of sustainable growth and jobs."

MCB GROUP SETS SIGHTS ON KENYAN PARTNERSHIP

With the opening of a new office in Nairobi, MCB Group is on a mission to become a strategic partner of business in Kenya and East Africa.

Led by CEO Alain Law Min and board chairman, Jean-François Desvaux de Marigny. the Mauritian-based group is sending a 16-person team to Kenya to assess the country's market in terms of business potential.

Speaking of MCB's Kenyan expedition, Law Min said, "We want to position MCB Group as a strong and competitive regional financial hub, leveraging Mauritius as an international financial centre of repute and substance. We are keen in enriching the appeal and adaptability of our value proposition across markets and segments, while upholding organisation-wide synergies and collaborative partnerships."

The MCB group, which was first established almost 80 years ago in Port Louis, is currently active in a series of economic footholds, including Madagascar, Mozambique, Reunion Island, Mayotte, Paris, Seychelles and Maldives, with a network of around 1,250 correspondent banks across the world. Through offering services such as corporate finance advisory, asset management, stockbroking, private equity and registry, the MCB Group holds a total asset worth of US$12bn. According to the CEO, the banking and financial services experts at MCB currently has no intention of opening any branches in Kenya and East Africa. They do, however, believe they can create partnerships within the Kenyan community via its Nairobi representative office, which will enable the group to gauge opportunities and build relationships in the region."Our Kenya rep office can be a doorway to Mauritius and MCB Group, and our products and services can be put to good use by Kenya corporates and banks as well," Law Min concluded.

BRIEFS

Digital-only banks on the rise

Standard Chartered has started the launch of its new range of digital-only retail banks across Africa. With a growing demand for innovative banking services, the chain has launched digital-only banks in Côte d'Ivoire, Uganda and Tanzania, with Ghana and Kenya to follow. The service interacts with clients in under 15 minutes and provides 70 of the most common service requests, including P2P payments, loan and overdraft facilities and instant fixed deposits.


Image Credit: Adobe Stock

The service launched last year.

C24D targets climate change

The Climate Research for Development (CR4D) Institutional Development Platform has adopted a five-year strategic plan in a bid to achieve sustainable development across the continent. In a meeting held in Entebbe, Uganda, members agreed to improve forecasting skills and reliability as well as service delivery. The plan has been outlined with emphasis on science, practice and policy, and hopes to present positive opportunities for climate change in Africa.


Image Credit: Adobe Stock

C24D's plan will enable Africa to build its own climate change solutions.


MOTEURS Baudouin
OUR POWER.
YOUR SOLUTIONS.
Baudouin's range of generator drive engines provide world class solutions for prime and standby power applications.
Durable. Robust. Built To Last.
Baudouin.com
Let's Talk Power @ MEE Stand S3.B40
MIDDLE EAST ELECTRICITY
ENERGISING THE INDUSTRY
Gold sponsor

Indian Ocean exploration set to be the world's first of its kind


Image Credit: Adobe Stock
An expedition ship will set sail to the Indian Ocean in March.

An ocean research institution and its partners are set to launch the first exploration of its kind in the Indian Ocean.

The collaboration, called First Descent, involves Nekton, the Commonwealth and other partners.

The expedition ship, a floating research station, will set sail from Seychelles in March equipped with subsea technologies, including a submersible capable of descending hundreds of metres into the ocean, and some of the world's top scientists on board to test the health of the ocean.

Paul Kautoke, Commonwealth director of trade, oceans and natural resources, said, "This is a mission of world firsts – including the first live subsea TV series and an examination of previously unexplored ocean depths with cutting edge technologies. But what is most important is the insight that this will offer governments and those who make decisions on important ocean governance issues such as conservation, climate change and fishing.

"This important partnership with Nekton and governments who recognise the need to take urgent action to protect our ocean will not only support the uptake of new marine science technologies and platforms to improve access to ocean data, it will also facilitate science-based policies and laws, and develop training materials for capacity building."

In December, the Commonwealth and Nekton signed a joint commitment in an attempt to protect the ocean and manage its resources under the Commonwealth Blue Charter. The Seychelles Government and partners have endeavoured to protect 30 per cent of their ocean territory by 2020.

CEO of the Nekton Foundation Oliver Steeds described the initiative as "a bold bid to help accelerate our scientific understanding of how the Indian Ocean is changing", adding that, "We are delighted to partner with the Commonwealth to support regionally led ocean governance for the Indian Ocean region."

WTO LEADER CALLS FOR MORE LDC SUPPORT

Roberto Azevêdo, director-general of the World Trade Organisation (WTO) met with a series of government officials in Mozambique's capital to discuss how best to improve the country's global trade via the WTO.

By strengthening the country's trade relationships in this manner, Mozambique will be able to develop the integration of least developed countries (LDCs) into the global economy.

As well as a visit to the National Institute for Standardisation of Quality, the Director-General also met with Minister of Foreign Affairs and Cooperation José Condugua António Pacheco and the Minister of Industry and Trade Ragendra de Sousa during his one-day visit to the country.

Speaking of his experience, Azevêdo said, "These are challenging times for multilateralism. We need to strengthen the global trading system to ensure that it is equipped to support a changing global economy, and that it continues to support the integration of Mozambique and other LDCs. As WTO members discuss how to modernise the organisation and make the system more agile and responsive to economic change, Mozambique and the LDCs have to make their voices heard in this debate. Working together, we can ensure that more LDCs benefit from global trade, and that the global trading system is truly working for the common good."

TIBCO SIGNS PARTNERSHIP DEAL WITH TECHSOFT

TIBCO Software has signed an agreement with TechSoft International (formerly TIBCO South Africa) in an attempt to revolutionise the API management and analytics market in South Africa.

As a result of the partnership, TechSoft is now TIBCO's strategic sub-Sahara partner with Level 1 Broad-Based Black Economic Empowerment (B-BBEE) status, providing customers and partners 135 per cent preferential procurement benefits and giving TechSoft exclusive rights to distribute TIBCO products across sub-Sahara Africa.

TechSoft will retain all TIBCO South Africa employees and premises, allowing the brand to further its Professional Services Group (PSG), giving clients access to TIBCO's best practices throughout sub-Sahara Africa.

Additionally, channel partners will able to gain from a local executive team while maintaining all the perks of TIBCO's international brand, allowing customers to adopt the cloud and become more data-driven along the way.

Speaking of the pairing Sicelo Xulo, CEO TechSoft explained: "Being a Level 1 B-BBEE business offers our South African customers unrivalled benefits from an international brand such as ours. It also provides us and our channel partners new momentum to accelerate our competitive edge."

"We will essentially continue our operations uninterrupted, so it's business as usual in that respect. However, we've also improved the business in a number of ways to positively impact customers, partners, and employees within the company."

Similarly, William Hughes, executive VP and chief administrative officer for TIBCO Software, said, "TechSoft is a business that we are proud to partner with in meeting the unique requirements of the sub-Sahara Africa markets."

BRIEFS

Zimbabwe to build US$1.4mn stadium

The Zimbabwe government has announced plans to build a US$1.4mn stadium in the south western part of Harare, according to local media reports.

Image Credit: Adobe Stock
The Zimbabwe government has pledged to build a new stadium in Harare.

"This facility will be known as Highglen Stadium. The reason is to decentralize the city's sporting infrastructure because you find that in that part of the city there is no recognised sporting infrastructure," said Harare City Council Housing Director Addmore Nhekairo. He added that Gwanzura football field will also be rehabilitated.

SA energy minister to speak at African Utility Week

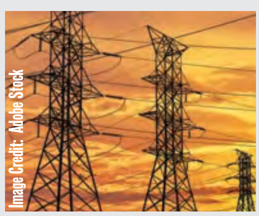


Image Credit: Adobe Stock
Energy Minister Jeff Radebe will be presenting the keynote address at African Utility Week and PowerGen Africa.

South African Energy Minister Jeff Radebe will be presenting the keynote address again at African Utility Week and PowerGen Africa at the CTICC in Cape Town on 14-16 May.

PowerGen Africa will add an expanded focus on generation, including renewables, off-grid, fossil fuels and nuclear, while still concentrating on transmission, distribution, metering and new technologies including storage, mini-grids, micro-grids, IOT and ICT systems, as well as water.

Avanti teams up with MainOne to improve connectivity across Nigeria

Avanti has paired up with West African connectivity and data centre solutions company MainOne to provide the latest KA-band based satellite communication services to enterprises across Nigeria.

On a mission to keep people connected, Avanti has provided a range of satellite services across Europe, the Middle East and Africa. The company has dedicated itself to pairing up with like-minded brands in order to improve connectivity from the ground up. As a result, this partnership allows MainOne to leverage Avanti's HYLAS 4 satellite, which was launched in April last year to enable flexible capacity services to Nigeria, with full coverage across the country.

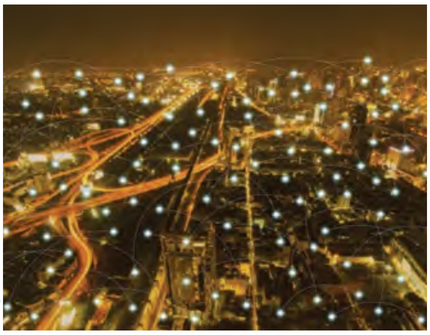


Image Credit: Adobe Stock

Avanti hopes to provide improve broadband penetration and wi-fi services throughout Nigeria.

Likewise, Avanti's ECO initiative, which combines broadband access, solar power and embedded Wi-Fi services for schools and small communities, will be deployed to Nigeria in order to speed up the ongoing process of improving broadband penetration in remote parts of the country.

Speaking of the partnership, Libby Barr, chief operating officer at Avanti, said, "We are delighted to be partnering with MainOne and look forward to building a strong relationship to enable the rollout of satellite broadband services across West Africa."

He continued: "Avanti's products will greatly complement MainOne's existing fibre-based networks by providing reliable connectivity services to its enterprise customers beyond its immediate fibre reach. We look forward to expanding our collaboration in serving the people of Nigeria and Africa with life-changing services."

Similarly, Funke Opeke, Chief Executive Officer of MainOne, said, "Our partnership with Avanti provides Nigeria with the opportunity to accelerate the expansion of broadband internet via satellite, to bridge the digital gap and improve digital transformation for more Nigerians."

"Such services are most critical for the oil and gas sector, and for the delivery of social and educational services into rural areas of the country. Beyond connecting institutions, Avanti's ECO solution also addresses the needs of their immediate communities and will accelerate getting more of our rural communities online," he concluded.

BIG 5 CONSTRUCT LAUNCHES IN LAGOS

The Big 5 Construct Nigeria has launched its first ever event in Lagos as more and more international construction companies enter the Nigerian market.

According to the organisers, dmg events, the exhibition, which will take place at the Lagos Landmark Center on 9-11 September, the feedback from international manufacturers is extremely positive on the launch of the new show. "There's true excitement within the industry looking at Nigeria's business huge investments underway in the infrastructure and urban construction sectors," says Muhammed Kazi, portfolio event director at dmg events. "As mature markets become increasingly competitive, construction companies are now finding fresh opportunities in Africa."

Roberto Alimonti, CEO of Rastone srl, said, "We really believe to have a chance to develop good business relations in the Nigerian construction field."

KHALIFA FUND INVESTS US$25MN IN SME GROWTH

President of Niger Mahamadou Issoufou met with Jasim Al Nowais, chairman of Khalifa Fund for Enterprise Development in the capital Niamey to discuss growing relations between the two countries.

During the meeting, the pair explored ways in which to build cooperation between Niger and the United Arab Emirates in various fields. Alongside Saadou Sidou, minister of trade and private sector development in Niger, Al Nowais signed a US$25mn agreement to provide support for micro, small- and medium-sized enterprises (SMEs) within the country, where the sum will be shared in equal amounts between enterprises in an attempt to further economic growth in the country.

Sheikh Mohammed bin Zayed Al Nahyan, crown prince of Abu Dhabi and deputy supreme commander of the UAE Armed Forces, assigned the Khalifa Fund to develop SMEs across the world, with Niger's economic development becoming a particular point of interest for the organisation.

Since it first began in 2007, Khalifa Fund for Enterprise Development has grown to become one of the institutions aimed at supporting SMEs in the United Arab Emirates, financing more than 1,400 projects across the country. The fund's services have also been extended to Egypt, Chechnya, Jordan and Republic of Belarus, Mali and Mauritania, expanding its mission to achieve sustainable development and diversify economies across the UAE into an international endeavour.

On the topic, Al Nowais stressed this agreement will provide young entrepreneurs in Niger with the resources needed to pursue their creative endeavours in order to build a diverse and creative economy. Similarly, Sidou remained optimistic that the agreement would generate new jobs for Nigeriens, reducing poverty along the way.

BRIEFS

Mining hailed as eco goldmine

The Mining in West Africa Report has identified the mining sector as a potential catalyst for economic development in most countries in the region.

Image Credit: Adobe Stock

Miners might have struck gold.

The report provides an analysis on mining conditions, products and opportunities in West Africa. Although typically associated with smuggling, child labour, revenue loss and health and safety concerns, the report found there is a determined effort to attract foreign direct investment to the mining industry.

Image Credit: SAP

The project is training women in digital media in a bid to increase productivity.

FemTI tutors women in tech

The DreamOval Foundation has created an project aimed at giving young women access to digital platforms across Ghana. Through training women in digital programming skills such as coding and robotics, FemTI hopes to bring more women into the digital world, improving Ghana's productivity online. This comes after a report by the World Wide Web foundation found women living in poor areas within less developed countries are 50 per cent less likely to use the internet than men.

Upcoming Events Calendar 2019

MARCH

12 - 14
WEST AFRICA POWER SUMMIT
Dakar, Senegal
www.wafpower.com

12 - 15
PROPAK AFRICA
Johannesburg, South Africa
www.propakafrica.co.za

20 - 21
INTERMODAL AFRICA
Mombasa, Kenya
10times.com/intermodal-africa-mombasa

21 - 23
BUILDEXPO ETHIOPIA /AFRIWOOD
Addis Ababa - Ethiopia
www.expogr.com/ethiopia/buildexpo or
www.expogr.com/ethiopia/afriwood

26-27
GLOBAL MONEY TRANSFER SUMMIT
Cape Town, South Africa
www.gmts-iamtn.com/gmts-cape-town-2019

28
TMT FINANCE AFRICA
Cape Town, South Africa
www.tmtfinance.com/capetown/

APRIL

8 - 14
BAUMA
Munich, Germany
www.bauma.de

16 - 17
SECUREX WEST AFRICA 2019
Lagos, Nigeria
www.securexwestafrica.com

MAY

14 - 16
AFRICAN UTILITY WEEK
Cape Town, South Africa
www.african-utility-week.com

POWER-GEN AFRICA/DISTRIBUTECH
Cape Town, South Africa
www.powergenafrica.com

JUNE

11 - 14
AFRICAN ENERGY FORUM
Lisbon, Portugal
www.africa-energy-forum.com

11 - 12
2ND ANNUAL FUTURE BANKING EAST AFRICA SUMMIT
Lisbon, Portugal
www.africa-energy-forum.com

Electra Mining Botswana recognised as vital industry trade platform

Now in its 4th edition, the country's leading mining, industrial and power generation expo returns in September together with the recently launched A-OSH Expo Botswana.

Taking place at the Gaborone Fairgrounds from 10 to 12 September, this will be an all-encompassing event showcasing the latest technologies, machinery, products and solutions related to mining, industrial and power generation, as well as all things associated with occupational health and safety (OSH).

As a forum for trading, networking, learning and product sourcing, the co-located events will provide an excellent opportunity for local and international exhibitors, industry associations, government officials and industry professionals to connect over three days at one venue.

OSH is taking on increasing importance in the workplace and is an emerging market sector in

Image Credit: Specialised Exhibitions Montgomery

Visitors at Electra Mining Botswana in 2017.

Image Credit: TRM Group

Gorata Manyaapelo, managing director of TRM Group.

Botswana. There is a growing need for occupational health and safety training, as well as the range of products and services that support this.

"A-OSH Expo Botswana is an ideal vehicle to promote occupational health and safety in Botswana," says Charlene Hefer, Specialised Exhibitions Montgomery's portfolio director. "As organisers we have extensive experience in this sector having organised eight occupational health and safety trade shows in South Africa. This experience is further supported through our partnership with local Botswana firm, TRM Group, who are forerunners in occupational health and safety in Botswana."

Gorata Manyaapelo, managing director of TRM Group, says she is excited to be teaming up with Specialised Exhibitions Montgomery and is looking forward to being a part of the "best Electra Mining Botswana Expo yet" and to give TRM's expertise and support to the new A-OSH Expo Botswana.

"TRM Group has proved to be pioneers and leaders in occupational health and safety, always at the helm of groundbreaking initiatives for the safety, health and environment movement of Botswana," says Manyaapelo. "This event is a great platform to showcase the industry and latest trends in this sector."

"The new terminal [at the Nnamdi Azikiwe International Airport] is the first to be connected to the rail transport system in the country and the region at large, providing the users with choice in the mode of transport to and from the city centre."

MUHAMMADU BUHARI
Nigerian President

"Almost 75 per cent of remittances are spent on consumption which greatly benefit the receiving households and communities. But more could be done to maximise the remaining 25 per cent. Fostering financial inclusion and promoting initiatives that help people manage the funds can go a long way to harness development impacts of remittances."

CLAUDIA NATALI
Regional specialist on labour mobility and development at the IOM Regional Office for West and Central Africa

"The revelations of links with companies synonymous with Mozambique's debt crisis indicate Angola might have a similar problem brewing, equivalent if not deeper than Mozambique's. With politically exposed persons who have moved to the new administration still likely to dominate Angolan businesses until Lourenço's efforts bring returns, where does this leave foreign companies seeking investment opportunities in Angola?"

MIGUEL SANZ
Research analyst

"Our new partnership will also cement our relationship with the African Union, building on growing economic ties to forge new opportunities for young people and reinforce our close bonds."

HARRIETT BALDWIN
UK's minister for Africa

"The established mobile payment services via Orange Money, the launch of 4G+ in 2018 and our engagement to extend 3G coverage to the whole country are all contributing to boost the smartphone penetration rate in DRC. The next commercialisation of the Sanza phone at an affordable price demonstrates our strategy for the democratisation of Internet access in the country."

GÉRARD LOKOSSOU
CEO of Orange Democratic Republic of Congo

"It is possible to make the African Union a strong body like the European Union. The EU has 28 countries, the African continent has 55, so it is going to be more difficult to bring 55 together than 28 countries. But there are many ways in which we can do it. For example, if you took these regional blocs, the closer they come together, the easier it becomes to draw them together, and therefore bring the whole continent together in the end. So, we should take it step by step, as practically as possible."

PAUL KAGAME
Rwandan President

MFS Africa's network connects more than 180 million mobile wallets in sub-Saharan Africa.

Image Credit: Pexels

Revolutionising digital payments

MFS Africa founder and CEO, Dare Okoudjou, speaks on solving the problem of interoperability within mobile money through using the MFS Hub.

Could you briefly give *African Review* readers an overview of MFS Africa?

We connect African consumers to the global digital economy, making it possible for anyone to transact with anyone else, using only a mobile phone. MFS Africa is the largest digital payment network in Africa, connecting more than 180 million mobile wallets across the continent. Our MFS Hub provides a "one-stop-shop" for anyone looking to expand their money transfer, financial services, or e-commerce business across Africa. Our core business is to provide simple and relevant digital payment solutions to our clients, who include mobile networks, money transfer operators, banks and merchants. Through our hub, our clients can allow any of their users to transact with any other users, irrespective of their network operator, country or currency.

What inspires you, and what is the vision and mission of MFS Africa?

I'm inspired by two things: the incredible innovation and potential I see coming from Africa, and the transformative power of technology. MFS Africa brings those two together, by leveraging the power of mobile technology to change lives and create positive impact on the continent. Having been on both sides of the remittance experience myself, I understand the frustrations of sending and receiving money to and within Africa. For me, this isn't theoretical – I'm driven by a desire to solve problems for my family and families like mine.

What I set out to achieve with MFS Africa was to take mobile money to the next level: interoperability. The MFS Hub allows partners to transact across networks, borders, and currencies through a single point of connection. We've made it just as easy to send money across platforms and borders as it is to make an international phone call. Our vision is a world in which national borders are as irrelevant to making payments as they are currently for telecommunications. And we are well on our way to realising that vision.

Why have you decided to partner and collaborate with this year's Global Money Transfer Summit (GMTS)?

Africa is in many ways at the forefront of payments and fintech innovation, yet suffers from some of the most expensive and opaque remittance prices in the world. Our mission as a company is to transform that reality, and this conference is about bringing together the people who can help us do that. We partnered with the GMTS to explore the challenges, opportunities and innovations that are redefining the remittances industry and wider fintech sector, and also to share our vision of affordable, accessible remittances to and within Africa with the wider industry.

By now, many people are familiar with the impact of mobile money in Africa, yet digital channels are still underutilised when it comes to remittances and other cross-border payments. Together, remittances and mobile money have enormous potential to drive financial inclusion, and this year's GMTS will go beyond remittances to shed light on their role as a springboard to enabling access to additional financial services.

Image Credit: MFS Africa

MFS Africa CEO Dare Okoudjou

Remittances are a remarkable entry point for fintech in Africa, in particular, because the service is in high demand, it's familiar to end users, and it's best served through technology. Our gateway model has opened possibilities for fintech players, banks, and merchants wishing to connect to multiple mobile wallet systems through a single integration – far more efficient than a proliferation of point-to-point connections.

We're thrilled to partner with the International Association of Money Transfer Networks to welcome the wider industry to Africa for the very first time, and we're looking forward to sharing our vision of a seamlessly connected continent with all attendees.

We have been at the forefront of this hub model, and the partnership with GMTS 2019 is also prolific and symbolic for us as the great mobile money and remittances story is right here in Africa. ■

Africa's trade finance evolution

Export and import opportunities in Africa are in abundance, yet a persisting trade finance gap continues to see SMEs in the region underserved when it comes to accessing the necessary liquidity for growth. Chris Ash, managing director at ExWorks Capital, discusses.

The growth of the African economy has been well-documented over the past decade. This is not set to slow, with the United Nations Department of Economic and Social Affairs predicting that, by 2035, the world's ten fastest growing cities will all be African – and latest statistics released by the Population Reference Bureau (PRB) estimating that, by 2050, the size of its population will have more than doubled to 2.6 billion. These predictions come as, over the past year, urbanisation has contributed to major growth in Africa's cities – with a growing middle class presence and greater internet penetration than ever before.

Yet 2018 was a mixed bag for the African economy, with South Africa entering its first recession in a decade and Nigeria and Angola recovering slowly from the repercussions of falling oil prices. Away from the cities, local African businesses continue to struggle against the domination of multi-national corporations (MNCs). Most lack necessary finance required to support vital steps in the supply chain – for instance, transporting goods – and resultantly are forced into oftentimes exploitative business relationships to ensure their products reach the port.

And it's not just local issues that have contributed to this lack of funding. The global financial landscape is – and, for the past decade, has been – undergoing a significant post-crisis overhaul, which is putting strain on major lenders. Stringent regulation introduced under Basel III has seen banks forced to scale back on capital intensive lending, while more recent regulation such as know-your-client (KYC) and anti-money laundering (AML) edicts are encouraging major lenders to retreat from higher-risk regions, including Africa. Among the worst affected are Africa's small and medium-sized enterprises (SMEs) – in particular, those operating the earlier stages of the supply chain.

Local businesses suffer

Liquidity demands of SMEs operating earlier in the supply chain are somewhat lower than those operating post-shipment. Yet many lenders are reluctant to invest at this stage due to the fact there is a more significant threat of non-repayment. To make matters worse, some lenders are even unaware of how to go about financing goods before the warehouse stage – restricting opportunities for local businesses who are often uninformed about the options open to them.

As a result, local businesses are finding it increasingly difficult to acquire the necessary funding to grow their businesses. For instance, there is often a noteworthy delay between the delivery of products and services and payment. With hefty cargo costs and lengthy transportation times, exporters often have to wait significant periods to receive payment from traders before being able to pay local farmers and miners for their initial delivery. This often leads to an interruption in the supply chain, and is particularly an issue when goods are exported from in-land locations.

At this point, international trading houses often step in, capitalising on a lack of local infrastructure in many rural areas and exploiting local workers for what many would judge as a miserly pay-out. The result: more and more local businesses are swallowed up into the wider supply chains of such companies – a cycle that is incredibly difficult to break free of, and one which results in very little financial gain for the local economy.

The alternative

Fortunately, alternative lenders are increasing their operations throughout Africa. These are non-bank lenders that specialise in particular fields – such as ExWorks Capital, which offers export trade finance products. Such providers offer nimbler, more flexible forms of funding. Crucially, they are not held back by the regulation currently impacting major banks and have a higher tolerance for risk, enabling them to operate in regions such as Africa.

> “Alternative lenders are increasing their operations throughout Africa”

Even when supply chains are fully leveraged, borrowers have access to a range of flexible solutions to meet their needs. Short-term financing products, for instance, can enable transporters to pay farmers and miners in local currency by bridging the gap between the receipt of goods and their arrival at the port. Specialist lenders even provide options to accompany existing banking products that may not meet some of the more niche funding requirements of smaller borrowers.

Fostering sustainable growth

Of course, financiers operating in Africa must consider both societal and financial benefits. So, while funding local businesses can help to avoid exploitation at the hands of international trading houses, investing in simple infrastructure – such as grading or washing facilities – can go a long way in adding value to products at the source of origination, helping further the local economy.

Such investment can lead to better profit margins for local businesses, more efficient transportation costs, and can contribute to the sustainable growth of some of today's fastest growing economies – fomenting the creation of more jobs, more advanced infrastructure and, ultimately, a better quality of life for local people. ■


Corporate and Investment Banking
AS FLUENT
IN AFRICAN
BANKING,
AS YOU ARE
IN BUSINESS.
Our award-winning track record, innovative culture and strong service ethic equip us to partner with our clients effectively to unlock opportunities and growth.
With a deal footprint across 35 African countries and corporate and investment banking presence in 12 of these, we have the experience, expertise and insights to be your banking partner of choice in Africa.
For more information on Corporate and Investment Banking, please contact us at https://www.rmb.co.za or www.fnbcib.com.
2018
Brand Finance Banking
500 Report
MOST VALUABLE
BANKING BRAND
IN AFRICA
Business Bank
2018
The Banker Awards
MOST INNOVATIVE
INVESTMENT BANK
IN AFRICA
(3rd YEAR RUNNING)
Investment Bank
FNB
First National Bank
RMB
Country Presence:
South Africa, Nigeria, Ghana, Tanzania, Zambia, Namibia, Botswana, Swaziland, Mozambique, Lesotho, Kenya and Angola.
RMB and FNB (First National Bank) represent the institutional, corporate, commercial and retail banking activities of FirstRand Group, one of the largest financial services groups in Africa.
RMB and FNB (First National Bank) are divisions of FirstRand Bank Ltd. and are authorised financial services and credit providers (NCRCP20).
13322/AR

Image Credit: Adobe Stock

The rise of digital transformation in South Africa

Back in 2018, International Data Corporation (IDC), a global technology research and advisory firm, predicted that South African channel partners would have to evolve strategy and platforms to meet the growing demand for digital transformation.

As more than 90 per cent of organisations were working towards a digital transformation strategy at the beginning of 2018, the pathways to digital integration and implementation were under pressure to perform. A year later and the old adage 'the more things change, the more they stay the same' has never been more apt.

Mark Walker, associate vice president for sub-Saharan Africa at International Data Corporation, (IDC), highlighted that vendors, service providers and channel partners have had to focus on building long-term partnerships and on building richer narratives around digital transformation initiatives and solutions. Throughout the year, new strategies had to be thought of to meet the tough demands made by organisations and industry.

"The Middle East, Turkey and Africa region would see annual spend on digital transformation initiatives exceed US$20bn by the end of 2018," he added. "Market leadership roles are being continuously disrupted and there is a new ICT world order, one that is built around innovation and new business models."

According to IDC, the shifts in the market, model and emerging technology have only increased pressure on the channel. Despite the challenges around service delivery and strategy as digital transformation demand impacts how vendors engage with organisations and solutions, IDC argues, organisations must make the right decisions to ensure that they are competitive and they are looking to the channel to deliver.

"The as-a-service trend continues to grow rapidly across software, infrastructure and datacentres," added Jon Tullett, research manager for IT Services at IDC South Africa. "This has complicated vendor service offerings and how customers view their investment. Organisations don't want vendor lock-in anymore. They want to be able to engage with solutions on a strategic and cost-benefit level, not be tied into silos and caught in vendor territory wars."

Organisations want to take advantage of new solutions that come onto the market, without being trapped in a five-year cycle and unable to justify the expense of a new investment, nor do they want to be constrained by hardware and work in silos.

At the recent IDC Cloud and Data Centre Roadshow, it was emphasised that not all lock-in is bad. If the framework delivers the results required, then lock-in is an acceptable compromise. To bridge the gap between the two it is critical that the channel articulates the value, highlighting how lock-in can augment the business and the benefits it can deliver. The shift to digital requires that there is a compromise from both the organisation and the channel partner to ensure that the results map back to the expectation.

The arrival of multiple international hyperscale cloud providers (Microsoft, Amazon, and Huawei) is having a noticeable impact on the transformation within South Africa and across Africa. "Organisations are showing greater confidence in accelerating their cloud strategies, and the services market is rapidly realigning to offer complementary hybrid services to take advantage of this momentum. The public sector has finally taken positive steps towards a government cloud as a service delivery enabler," he said.

These factors already started to act as force multipliers in 2018, increasing the pressure to engage positively in digital transformation to remain competitive and maintain growth. IDC found that the DX activity in the short term will show direct results in the near-medium term, with noticeable business benefits to DX leaders.

On the downside, 2018 saw the rapid pace of digital transformation and heightened the level of cyber risk continuing to expose organisations to threats, with theft of customer data and financial fraud the primary target for criminals. "Unfortunately, security still lags DX, and the rate of successful attacks has increased in frequency, impact, and cost: a trend which is not likely to reverse in 2019," said Tullett.

"The problem is that most organisations are still going about digital transformation in the wrong way," said Kieran Frost, research manager for software at IDC sub-Saharan Africa. "Not just in South Africa, but globally. The goal is to have an independent digital enterprise and only a few organisations have managed to achieve this. IDC has predicted that by the end of 2019, 60 per cent of digital services will fail to meet customer experience targets due to performance, utilisation and the degradation of core infrastructure. This is as much due to a lack of investment into the right digital infrastructure as it is to the growing conflict between IT and the business."

A trend that has become increasingly prevalent through 2018 is the struggle for technology control between Line of Business (LoB) and IT. Sixty per cent of African CIOs are leaving digital transformation projects to the LOBs themselves – a dangerous approach given that digital transformation requires broad participation of both IT and the LOB. The battle lines drawn, both sides struggle to find commonality in IT investment and requirement. To resolve the challenge, it is critical that both recognise it is easier to juggle the demands of business and digital transformation together rather than apart.

"Over the next year, both channel and organisation need to look to leveraging infrastructure and putting metrics in place that are easy to adopt and understand," concluded Frost. "Build IT modernisation battle plans, innovate within your space, and evaluate technology through new lenses that ask different questions such as – where is this best deployed, how quickly can that change, who should own its value and how will it integrate with our standards?"

As digital transformation trends and innovation move into a new year, there are lessons learned and new trends to be aware of. The channel remains crucial but needs to invest in skills and solutions that engage with the demands of the digital business. The business, on the other hand, must focus on becoming more integrated from within so its digital strategy can be effective without. ■

Janhavi Solar's tower lights are energy-efficient and cost-effective

Powered by the philosophy "Green Energy Powering Our Future", Janhavi solar tower light, by Janhavi Solar, is an innovative product designed to meet the demanding lighting needs of the large-scale construction and projects sector.

At the same time, it contributes to enhanced operational and financial performance with its superior quality in comparison to the fuel generator powered tower light. An eco-friendly product with zero-carbon footprint, the solar tower light is easy to operate and low on maintenance. The 'completely' silent unit adds this advantage as another feather in its cap.

Another benefit is the significant amount of money that is saved in fuel and maintenance costs. A comparative analysis by Janhavi Solar finds that the unit achieves a 100 per cent (ROI) in 15 months and generates more than US$25,000 in savings over a three-year project usage period.

The solar tower lights come with a full three-year warranty and free maintenance. The portable and mobile six to nine metre-high tower masts are equipped with 400W to 800W LED lights with a guaranteed performance of up to 18 hours on a single full charge.

The parent company of Janhavi Solar was established in 2010 with a factory area of 6,000 sq m in Hamriyah Zone, Sharjah.

Image Credit: Janhavi Solar

Janhavi Solar tower lights aid in night construction.

The group includes the Green Prefab FZE company in the UAE as well as Janhavi Readymade Homes and Janhavi Colour Profile Sheet Industries in India.

Janhavi Solar has an in-house facility for production and testing, with a capacity of more than 100 products per month.

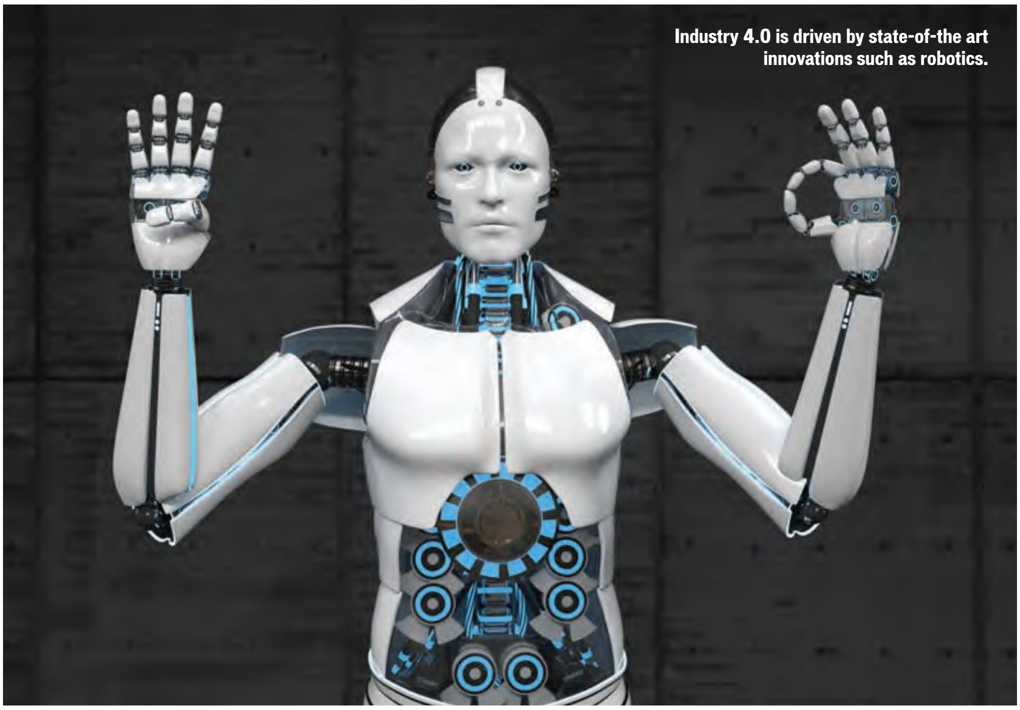
In the UAE, the company has supplied products and installation worth more than US$27.23mn and provides support to some of the most prestigious clients and projects in the region. In India, the company has delivered readymade homes, resorts and units across different states for both individual and institutional clients.

The overall client base of the combined entities is more than 1,000 customers across private, public, corporate and government segments. The business also exports products to more than 22 countries across the region covering GCC, Africa and India.

Janhavi Solar produces solar lighting towers, mobile surveillance trailers, trailer parts and telescopic masts. Furthermore, the enterprise holds adequate stock to provide prompt shipment and takes pride in the customer-driven, efficient pre-sales and effective post-sales service.

Preparing for the Fourth Industrial Revolution

The Fourth Industrial Revolution will impact everything from supply chains, energy/water supply to transport, education and healthcare. Moin Siddiqi investigates.



Industry 4.0 is driven by state-of-the art innovations such as robotics.

Image Credit: Adobe Stock

New technologies and global economic integration are redefining the future of work, specifically how and where goods and services are produced. The impact on Africa could be direct if automation in advanced economies reduces region's participation in global value chains (GVCs) as sophisticated industries replace low-end manufacturing trade and services, thus hitting jobs. The challenges of high-tech innovations affect, however, both advanced and developing countries.

Historically, technological changes have reshaped our lives. The first two Industrial Revolutions – the steam engine (1760-1840) and electricity (late 1800s-early 1900s) led to mechanical and mass production. Whilst third – also called the digital revolution (1960s-2000s) used electronics and information technology to automate production. Now a fourth revolution or industry 4.0 is underway. Professor Klaus Schwab, author of The Fourth Industrial Revolution and founder/executive chairman of the World Economic Forum, explained the new age is differentiated by the speed of technological breakthroughs, the pervasiveness of scope and the tremendous impact of new systems. Exponential technologies that constitute the Fourth Industrial Revolution (4thIR) will impact everything from supply chains, energy/water supply to transport, education and healthcare.

What exactly is Industry 4.0?

The 4thIR – an extension of digital revolution – is rapidly expanding the scope of machines' capabilities via 'groundbreaking' technologies that combine the physical, digital and biological worlds. The term was not well-known until it became a central topic at the World Economic Forum in Davos, Switzerland. The underlying power lies in high-tech communication and connectivity rather than technology. These technologies boast vast potential to continue connecting billions of more people to the web, while transforming entire systems of production, management and governance across the globe.

Industry 4.0 is driven by 'State of the Art' innovations, i.e. using 'disruptive' technologies such as the Internet of Things (IoT), artificial intelligence (AI), virtual reality (VR), robotics, 3D printing, nanotechnology, biotechnology, machine learning, energy storage, autonomous vehicles, quantum computing and Blockchain. The 4thIR combines 'cyber-physical' systems and Internet of 'Everything' to change the way we live and work – thus representing new ways in which technology becomes embedded in wider societies.

> "We need to promote digital literacy and identify the skills that will allow the next generation to work with and take advantage of technology rather than be replaced by it"
>
> CHRISTINE LAGARDE, MD OF THE IMF

Already, AI is visible around us, from self-driving cars and drones to virtual assistants and software that translate or invest. Digital fabrication technologies are interacting with the biological world daily. Furthermore, engineers, designers, and architects are combining computational design, additive manufacturing, materials engineering in the building industry.

Policies to develop 'E-Economy'

The 4thIR will radically change the kinds of jobs needed in industry, where talent, more than capital and mass labour represent the critical factor of production. The International Monetary Fund (IMF) notes, "Innovation, creativity, and constant refreshing of skills are rewarded well in a globally competitive system." The key pillars are connectivity and skills upgrade.

Africa faces ongoing challenges to build/maintain adequate physical and digital infrastructure – total annual cost of which is US$130-170bn (African Development Bank estimate). The overarching priority is transportation and electrification but greater digital connectivity within national borders, regionally and globally is critical for SSA to benefit from 4thIR. Presently, the region's internet penetration is merely half of global average plus broadband services are very expensive. The investment needs in digital communication are estimated at US$5-7bn/year, modest compared to physical infrastructure requirements.

Africa should nurture well-trained workforce to compete in global markets.

"We need to promote digital literacy and identify the skills that will allow the next generation to work with and take advantage of technology rather than be replaced by it," said Christine Lagarde, managing director of the IMF. This puts premiums on science, technology, engineering, and mathematics (STEM) in higher education system, online courses using latest teaching methodologies, as well as investments in research/development and data-base design.

Looking at experiences of matured emerging economies where urban centres are drivers of new technologies, African mega-cities should aspire to become innovation hubs with new start-ups specialising in ICT, high-end manufacturing and fintech, which seeks to improve and automate the delivery and use of financial services.

How the digital economy improves lives in Africa?

Sub-Saharan Africa has made tangible progress in introducing new technologies, with mobile phone penetration reaching 44 per cent in 2017, with over 400 million subscribers. Mobile has effectively leapfrogged fixed-line telecoms infrastructure. Technology raises income levels and enhances the quality of people's life. Over time, transportation and communication costs fall, logistics and regional supply chains become more effective and trading costs will decline. That, in turn, opens new markets and fuels economic growth across Africa.

Various examples of advanced technologies being used by African governments, businesses and consumers cut across sectors. East Africa has led to the development of mobile money (M-Pesa) in Kenya, facilitating access to financial services to millions of 'unbanked' populations. New start-ups, such as EC CASH provide mobile money transfer and micro-financing, while FarmDrive connects smallholder farmers with lenders and hello tractor links farmers with the nearest tractor owner. South Africa uses biometric data and payment cards to deliver social security across the country.

Rwanda boasts the world's first cargo drone delivery service with Silicon Valley start-up Zipline, which delivers critical medical supplies to remote health centres thanks to recent regulations that gave drones the status of government flights.

Drones are deployed by South African miners for everything from mapping to mineral exploration to tracking stockpiles. Drones deliver samples from sites thus surveyors spend less time gathering data in the field and more time interpreting it. The use of drone mining helps track deposits in deep mines.

Further examples of innovative local services include VULA Mobile (medical diagnosis app) in South Africa connecting health workers with specialists. Biscate is a mobile-recruitment service for blue-collar workers in Mozambique. In education, Fundi Bots offers STEM training in schools and communities and KYTABU has improved access to textbooks and audio books. More significantly, a 3D printer can tackle Africa's chronic housing deficit by building a house in 24 hours at a low cost. In Ghana, Global Positioning System (GPS) is used to establish addresses where street names and numbers or maps are incomplete.

New technologies are vital to boost agricultural productivity – SSA is endowed with 60 per cent of globe's uncultivated arable land. Farmerline, a Ghanaian agro-tech company, uses mobile phones to provide timely information to farmers on weather forecasts, market prices and financial services. iCOW advises farmers and herders on crop cycle, fertilising, seeding, poultry and best practices; FAMEWS collects data and maps the spread of fall armyworm infestation to protect crops and livestock.

In summary, a 'New Age' is upon the horizon where technologies will fundamentally change societies across the world. Professor Schwab said, "My concern is that decision makers are too often caught in traditional, linear (and non-disruptive) thinking or too absorbed by immediate concerns to think strategically about the forces of disruption and innovation shaping our future." However, parts of Africa has yet to fully embrace the Third (digital) revolution, which explains the productivity gap with other developing regions, notably Asia. ■

TECH TERMINOLOGY

* A disruptive technology displaces an established technology and shakes up the industry or a ground-breaking product that creates a completely new industry. For example, smartphones largely replaced mobile phones and Personal Data Assistants (PDAs) and, because of the available apps, also disrupted pocket cameras, MP3 players, calculators and GPS devices, among other possibilities.
* The Internet of Things is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs), with the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction.
* 3D printing is any of the various processes where material is joined or solidified under computer control to create a three-dimensional object, with material being added together (such as liquid molecules or powder grains being fused together), typically layer by layer. In industry, 3D printing enabled the emergence of small-scale and customisable manufacturing and construction.
* Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of data and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Known applications of AI are expert systems, speech recognition and machine vision.
* Smart factories in which machines are augmented with web connectivity and connected to a system that can visualise the entire production chain and make independent decisions. This enables the absolute customisation of products and the creation of new operating models.
* A blockchain is a growing list of records, which are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp and transaction data.
* Robotics is a branch of engineering that involves the conception, design, manufacture, and operation of robots.
* Virtual reality is an artificial tool created with software and presented to end-users in a way they suspend belief and accepts it as a real environment.
* Biotechnology is the area of biology involving living systems and organisms to develop, make and modify products or processes for specific use.
* Quantum computing is computing using quantum-mechanical phenomena, such as superposition and entanglement.

TII Group presents transport solutions for the wind energy sector at bauma 2019

The TII Group will be launching its improved Tiiger SD modular heavy-duty transporter at bauma 2019.

The Tiiger is one of the four vehicle brands of the TII Group serving the African and Indian and Southeast Asian markets.

Since its subsidiary's launch in 2015, TII's production and sales facility have constantly continued to develop the Tiiger SD heavy-duty transporter, which can now carry loads weighing up to 240 tonnes.

Other innovative TII Group developments, which will be on display at the bauma show in Munich on 8-14 April, include the wind turbine blade adapter with a positioning angle of 70°. It is now in the third generation with an improved payload moment of up to 610 metre tonnes. TII Group has met the increasing market need for more wind turbines by developing a new transport system for particularly long wind blades of lengths of more than 80 metres.

TII Group's wind turbine blade adapter will be displayed at bauma.

Image Credit: TII Group

Also, being showcased will be semi-modular compact vehicles for road transport of loads from approximately 30 to 115 tonnes. The EuroCompact is a light and compact low-bed trailer which is suitable for a wide range of transport assignments due to its combination options. Among other things, it can be used to transport construction machinery, transformers or plant components. The U5 version will also be on display whereby the centre distance has been optimised to 1,500mm. As a result, this makes the vehicle ideally suited particularly for those times when confronted with problematic infrastructure and approval procedures.

The TII Group has re-organised its service activities and has created even more proximity to the customer.

Michael Buhl, head of Global TII Service Operations said, "Service makes the difference. For us, service excellence means that the operational capability and durability of the vehicles comes first".

DHL GLOBAL FORWARDING NAMED AS AFRICA'S INTERNATIONAL FREIGHT FORWARDER OF THE YEAR FOR FIFTH TIME

DHL Global Forwarding, a leading international provider of air, sea and road freight services, has again been voted Africa's International Freight Forwarder of the Year for 2019, by readers of STAT Times, an international air freight publication for business decision-makers in the shipping, transport, aviation and tourism sectors. This is the fifth consecutive time DHL Global Forwarding has won in this biennial award for excellence in air cargo, presented during the Gala Award Nite on February 20 as part of the Air Cargo Africa 2019 conference held in Johannesburg.

The latest DHL Global Connectedness Index, which measures the flows of internal trade, capital, information and people between different countries, ranked the Middle East and North Africa as the world's third most connected region after Europe and North America.

Amadou Diallo, CEO, DHL Global Forwarding, Middle East and Africa said, "Having operated here for the past four decades, Africa remains an immensely important market for us in light of its tremendous growth opportunity. With our extensive global network, we are committed to growing our customers' business, expanding their reach beyond the continent, and to the rest of the world. We will continue to invest in meeting growing market demand, amplifying the region's transport

Image Credit: DHL Global Forwarding

Ivin George, VP, Airfreight and customs brokerage.

infrastructure, and applying global innovations to the Africa context, with a special focus on partnerships like our most recent joint venture with Ethiopia Airlines to bolster Ethiopia's credentials as an intra-regional logistics hub."

Digitisation and the adoption of new technologies are playing a growing role in DHL Global Forwarding's services and solutions, to cater to consumers' preferences: In Africa, the continent's mobile adoption is projected to grow seven-fold between 2017 and 2022, and potentially add US$300bn to the continent's GDP by 2025, fuelling e-commerce growth.

"This award, and the support of the business community that it testifies to, serves to further encourage the team at DHL Global Forwarding, said Ivin George, Vice President, Airfreight and Customs Brokerage, DHL Global Forwarding, Middle East and Africa."

"With the region's economic landscape growth attributed to a young urbanising population as well as growing strength in primary industries such as agriculture, an integrated logistics network will play an integral role in supporting Africa's economic growth. Africa is fast gaining global attention for its high-quality primary produce like flowers, vegetables, fruits and fish, with countries like Kenya and Ghana ranking as some of the top agricultural exporters to US and Europe and we are eager to work with our customers to capitalise on these opportunities."

BKT focus on OTR and port applications

Spotech is an innovative device that is able to provide exact information about an equipment position via satellite.

Image Credit: BKT

Left to right: A BTK worker using SPOTECH and Piero Torassa BKT engineer carrying out a spot check.

Monitoring tools have been developed for the purpose of transforming subjective sensations on equipment performance into objective comparative data. However, every step can be improved. This is why BKT has developed SPOTECH, an innovative device able to provide exact information on the equipment position traced by satellite. The company says the objective is a kinematic motion analysis: The system, indeed, comprises a triaxial accelerometer positioned on the equipment in order to record latitudinal, longitudinal, and vertical movements as well as the forces involved in addition to speed, cycle duration and other useful parameters for increasing the customer's job efficiency in the earthmoving and port sector.

All information obtained by SPOTECH enable the creation of a real study on tyre usage according to their effects and impacts on the piece of equipment it is fitted on.

In the field of OTR, for which this device has been originally designed, equipment generally performs repeated cycles. This enables to assess the TKPH value, i.e. a dumper's strength by analysing the weight that is transported on the average and the distance in kilometres per hour. A higher TKPH index means that a tyre is not suitable for the application in use, whereas it is perfect if the result is lower. The BKT experts can assist users by offering suggestions to correctly interpret the data and to intervene, if necessary, with corrective actions on the tyres.

There are, however, differences in regard to port applications. At a port yard, there are never repeated cycles. Hence, it is a more complex task finding a constant value to be measured. In this instance, the use of a GoPro camera becomes essential. It can be installed on the equipment registering videos from the operator's prospective being synchronised with the data recorded by the device, and enquiring, for instance, how many containers are on the move every hour, the average speed per hour, or the average distance travelled with or without load.

> "The user is interested in having such data at hand to objectively understand, which might be their improvement areas"
>
> **PIERO TORASSA, BKT ENGINEER**

"In this type of operation many things come to light on the field. In Germany, we have cooperated with some users, who have explicitly requested our analyses, since other companies offering this type of service in the end did not provide that kind of feedback customers really needed," Piero Torassa, BKT engineer states. "The user is definitely interested in having such data at hand in order to objectively understand, which might be their improvement areas." ■

Ghanaian firm partners with Faymonville to move large FPSO anchor

To move a huge suction pile, Ghanaian customer MONPE Ventures used its orange ModulMAX axle lines from Faymonville. The project included two major challenges: the weight and the dimensions of the impressive load.

"When I first got the request to move the suction pile in a vertical position, I was skeptical to say the least. I had seen this been done before but much smaller", said Peter Everett from MONPE Ventures about this non-typical challenge.

Image Credit: Faymonville

The 16 modular axle-lines from Faymonville were used in the transportation of the huge suction pile.

The suction pile was 8m in diameter, 16m high and weighed 125 tons. To build the ideal transport configuration, the 16 modular axle lines from Faymonville were assembled side-by-side in a 4-file configuration. A solution that Everett designed with Faymonville. "Their engineers came up with this solution. At first, the tipping limits were barely acceptable, so we added 44 tons counterweights, which reduced the height of the centre of gravity a lot and thereby extremely improved these values."

The piece was fabricated by Belmet 7 inside Takoradi Port. MONPE Ventures transported it from their yard to the quayside at a distance of 3km. Everett said, "There are chambers and ruts on the road, but it was extremely stable. The client was so impressed that a local company had the equipment and support from the manufacturer to do such a job. I thank Faymonville for their support which is far more than just selling you a trailer but real support from engineers, trainers and knowledge that comes with being in the Faymonville family."

At the quayside, it was loaded on to a vessel to be used as an anchor for a FPSO in the Ghanaian oil and gas fields.Before handling the project, the team from MONPE Ventures underwent training by Faymonville staff.

Established in 2005, the Ghanaian family company MONPE is a leading specialised and heavy haul transporter in Western Africa. MONPE's fleet of modular trailers includes 16 axle lines, two necks and decks, as well as a drawbar and 4-file kit, allowing it to be extremely versatile with regards to a range of transport challenges throughout Western Africa. Faymonville can state that its footprint in Africa continent has grown consistently over the years, making it an important pillar in their network.

ETHIOPIA AND DJIBOUTI SIGN PIPELINE DEAL

The governments of Ethiopia and Djibouti have signed a deal to build a US$4bn pipeline to transport up to 12 million cubic metres of gas to an export terminal in Damerjog, according to reports.

The pipeline will be built by Chinese firm Poly-GCL Petroleum and gas will transported from the eastern Ethiopian Somali region to Djibouti where a LNG plant and terminal will be built.

Djibouti's Energy Minister Yonis Ali Guedi said, "It is the most expensive project ever built in the Horn of Africa region. The two parties have reached an agreement in principle to allow them to benefit from the project in an equitable manner."

Poly-GCL Petroleum has been developing the Calub and Hilala fields since signing a production sharing deal with Ethiopia in 2013. Construction is expected to take three years. Ethiopia also expects over one billion dollars annual income by selling gas to the global market.

COSCO SHIPPING LINES AND BOLLORÉ SIGN MOU

COSCO Shipping Lines and Bolloré Transport and Logistics signed a Memorandum of Understanding in Shanghai. The two companies, partners for more than 20 years, want to intensify their commercial relations while exploring new opportunities for cooperation in transport, logistics and port infrastructure. Through this agreement on 29 January, the two companies have agreed to explore the possibilities of commercial collaboration in order to develop their activities and satisfy the needs of their customers, particularly in terms of digitalisation.

Bolloré Transport & Logistics and COSCO Shipping Lines share the common ambition to intensify international flows, particularly on the African continent, where Bolloré Transport and Logistics is known for its expertise and has a large network of maritime agencies and unique know-how in corridor management.

The signing of the MOU between Bolloré Transport & Logistics and COSCO Shipping Lines.

"This new agreement signed with Cosco Shipping Lines is the result of our common desire to develop synergies between our businesses. It also illustrates our ambition to continue the development of our international network by promoting cooperation with strategic partners, recognised for their excellence and performance." said Cyrille Bolloré, CEO of Bolloré Transport & Logistics.

"Thanks for the support of our old friend in the past 20 years. The new agreement has significant meaning to both of the two companies to further develop global business." said Wang Haimin, managing director of COSCO SHIPPING Lines.

BRIEFS

Five per cent growth in air passenger growth

Global passenger growth increased by 6.2 per cent in November 2018, according to IATA. Although it is ahead of the revenue passenger kilometres (RPK) average over the past decade (6.0 per cent), it is below the its five-year average (7.1 per cent). Aircraft carriers in Africa also posted very similar rates of year-on-year international RPK growth in November, at 5.7 per cent, despite ongoing challenges in the economic backdrops of Africa's largest economies.

Image Credit: Adobe Stock

African air passenger growth was 5.7 per cent despite economic challenges.

Legal battle for control of Djibouti Ports

One of the world's largest port operators has sued a Chinese state enterprise in Hong Kong over infringement of its exclusive port agreement with Djibouti, in the city's first court case involving China's Belt and Road Initiative. FactWire obtained a legal filing by United Arab Emirates' DP World at the Hong Kong High Court against China Merchants Port Holdings Company accusing it of causing the Djibouti government to revoke the firm's exclusive right to run the country's ports.

Image Credit: Factwire News Agency

DP World sues China Merchants Port Holdings Firm in legal wrangling over Djibouti's ports.

IVECO
TRAKKER
IVECO

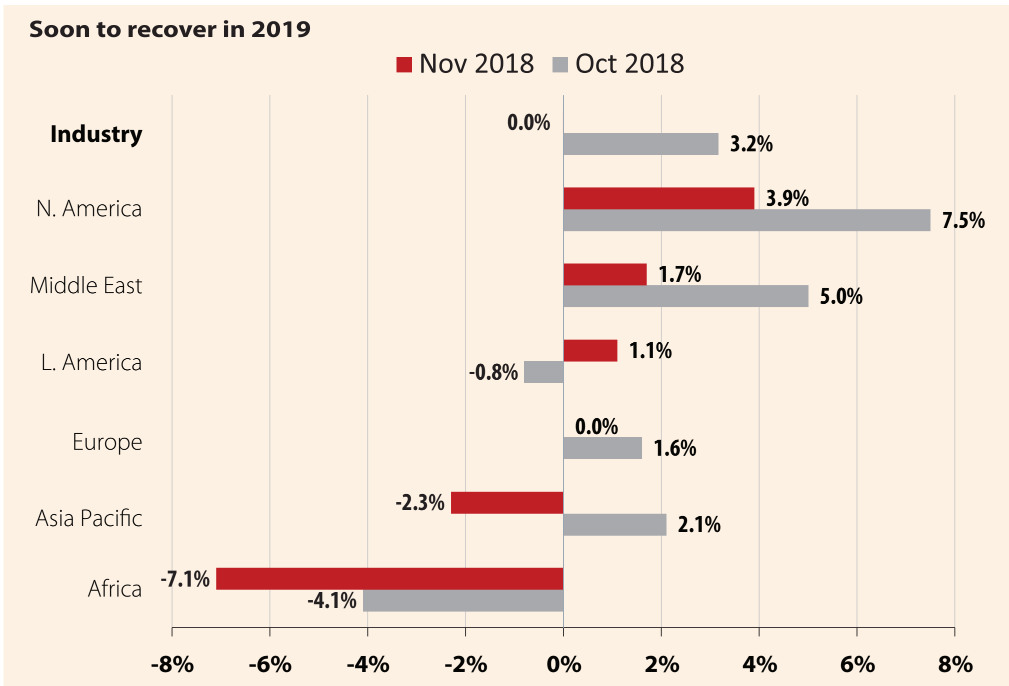
Promising freight outlook expected in 2019

Muhammad Al Bakri, IATA's Vice President for Africa and Middle East speaks to *African Review* about the positive growth expected in the African freight industry.

What does the freight demand outlook for Africa look like in 2019?

In 2018, global air freight volumes (measured by freight tonne kilometres or FTKs) increased by 3.5 per cent. African airlines, however, saw their freight volumes decline by 1.3 per cent compared with their level of 2017. Africa was the only region where FTKs fell versus a year ago. Looking ahead, global FTKs are forecast to grow by around 3.7 per cent in 2019, supported by a solid economic backdrop and growth in global trade. We expect that the growth rate in air freight volumes for Africa will return to positive territory in 2019 and we are cautiously optimistic that the industry in Africa will grow a little faster than the industry overall.

International FTK growth



International freight tonne kilometres (% year-on-year)

Sources: IATA Economics, IATA Monthly Statistics

Air freight market detail - November 2018

	World share [1]	November 2018 (% year-on-year)			
		FTK	AFTK	FLF (%-pt) [2]	FLF (level) [3]
TOTAL MARKET	**100.0%**	**0.0%**	**4.3%**	**-2.2%**	**51.5%**
Africa	1.7%	-7.8%	-7.4%	-0.2%	39.0%
Europe	23.4%	-0.2%	3.1%	-2.0%	57.9%
Latin America	2.6%	3.1%	2.0%	0.4%	37.9%
Middle East	13.2%	1.7%	7.8%	-3.1%	51.4%
North America	23.0%	3.1%	6.3%	-1.3%	43.2%

source: [1]% of industry FTKs in 2017, [2]Year-on-year change in load factor, [3]Load factor level

Key: FTK - Freight Tonne Kilometre, FLF - Freight Load Factor, AFTK - Available Freight Tonne Kilometre

Source: IATA's Air Freight Analysis

What are the main challenges and risks facing freight operators/companies?

Air freight volumes grew much faster than global goods trade during 2017 as firms turned to the speed afforded by air freight to restock their inventory levels quickly. Following the usual pattern, that relative outperformance was unwound in 2018 despite a moderation in the growth of global goods trade.

Looking ahead, there are a range of global, regional and country-specific challenges faced by air transport operators. Globally, most commentators are forecasting another year of robust economic growth. However, slower growth is a risk to the outlook for freight operators. In the region, 2018 saw economic challenges impacting a number of strategic countries, including South Africa. Economic growth and geopolitical stability in the region will continue to be important issues for the air transport industry this year.

Global trade conditions are an important driver of international air cargo demand. As such, an escalation or widening in trade tensions represents another major risk to the outlook. In Africa, a lack of connectivity and high costs act as headwinds to the growth and development of the air transport industry. The Single African Air Transport Market (SAATM) is a critical initiative which will can help to overcome the region's current lack of connectivity. Taxes and charges, along with fuel costs which are around 35 per cent higher in Africa than in the rest of the world also need to be addressed.

In the November 2018, IATA reported Africa demand was down by 7.8 per cent, the eighth time in nine months it has contracted due to weakness to and from all major markets. Why do you think all major markets to and from the continent have struggled to post positive growth this year?

Muhammad Al Bakri, IATA's Vice President for Africa and Middle East.

Although the year-on-year growth in international FTKs flown by African airlines remained in negative territory in December, a sizeable improvement is evident, with growth lifting to -1.5 per cent from -8.7 per cent year-on-year in November. The level of FTKs has been below that in nine of the past ten months.

This followed a period of very strong growth in 2016 and 2017, which peaked at more than 30 per cent year-on-year in March 2017, supported by the global inventory restocking cycle, a robust economic backdrop and healthy foreign investment flows, especially from Asia.

In fact, for 2017 as a whole FTK growth for Africa increased by more than 20 per cent. This pace was not sustainable and, combined with the temporary nature of the inventory restocking cycle, was unsurprising to see a pull-back in growth in 2018.

Even so, it is important to bear in mind that international air cargo volumes are now 50 per cent higher than the most recent trough observed in late 2015. This equates to a double-digit annual growth rate of around 13 per cent over the past three years. And we expect positive growth will return in 2019.

Do you think trade conditions in 2019 will further have a negative impact on air freight volumes in 2019? If so, why?

Global trade conditions are an important driver of international air cargo demand. The ongoing trade tensions between the US and China and the possibility that they may develop and spread further represent a critical risk to the outlook for air freight volumes. That said, the World Trade Organisation (WTO) expects world trade volumes to grow by a robust 3.5 per cent in 2019. Although this is a little slower than the pace of 2018, it remains close to the 10-year average growth rate and will help to underpin growth in freight volumes this year.

Will e-commerce continue to be a major driver in freight demand?

Globally, both the e-commerce and pharmaceutical segments have been growing strongly for some years now. We expect that this trend will continue through 2019, and that will again make another important contribution to the overall growth of the air freight segment. We will be watching closely the evolution of a number of important indicators, including global business confidence and new export orders, as well as, of course, developments in international trade tensions and jet fuel prices. ■

MAN Energy Solutions to set up power plant in Guinea

MAN Energy Solutions is stablising the power supply in Conakry, the capital of Guinea. The company is in the process of installing six MAN 18V32/40 engines in a power plant that will provide 53MW of electrical power for the city, which has more than a million residents.

Currently, the plant is being set up in the municipal area of Conakry in close collaboration with the Turkish EPC company Iltekno.


Image Credit: MAN Energy Solutions

MAN Energy Solutions installs six MAN 18V32/40 engines with a total capacity of 53MW in a power plant in Conakry, Guinea.

Upon completion of the construction project, MAN PrimeServ, the after-sales brand of MAN Energy Solutions, will operate and maintain the power plant for five years on behalf of the client, the Tè Power Company. The project was developed and financed by the independent power producer Endeavor Energy, which is based in Houston, Texas.

"The power supply in Conakry is consistently subject to large fluctuations and we have made it our goal to stabilise this supply. Therefore, the reliability of the technology we use takes utmost priority. Our 18V32/40 engines are the right choice as they are known for their robustness, reliability and long maintenance intervals," explains Waldemar Wiesner, Head of Region MEA (Middle-East Africa), Power Plant Sales at MAN Energy Solutions. "Since the power plant is situated in the centre of the city, it is also crucial that emissions are kept to a minimum. Thanks to exhaust gas cleaning via SCR (selective catalytic reduction), the plant will not just comply with the emissions standards of the World Bank, but also fall below these limits considerably."

The power supply in Guinea is based two-thirds on hydroelectric power and a third on thermal power plants. The total installed capacity falls short of the current demand of around 550MW.

"Only around a third of the population in Guinea have a reliable supply of electricity. Supply shortfalls occur with particular regularity in the dry season, owing to the large dependence on hydroelectric power. In such cases, engine power plants act as a reliable safeguard," explains Stefan Eefting, Senior Vice President MAN PrimeServ. "Our power plant solutions are designed to overcome the challenges of guaranteeing a reliable power supply anywhere in the world."

CUMMINS INTRODUCES NATURAL GAS GENERATORS

Cummins will debut the HSK78G natural gas generator series during the 2019 Middle East Electricity (MEE).

Fuelling the next generation of power, the series, available in African markets, offers a total package of gas generator capabilities and innovative gas technology for prime and peaking power applications.

With a power density of up to 2.0MW from a 78L engine, the HSK78G generator series is designed to provide reliable power, regardless of the natural gas source or the climate, including extreme heat up to a 55˚C and extreme altitudes. The company said this new technology represents a bold step into the gas arena for Cummins that pushes new levels of efficiency, transient performance and gas variation well beyond former natural gas generators.

MEE is taking place at the Dubai World Trade Centre on March 5-7. The event brings together leading manufacturers, global experts, governments, project managers and contractors to move projects forward.

FASCINATING ENERGY FUTURE AHEAD FOR AFRICA

Global political and business leaders have outlined the geopolitical implications of an energy transformation driven by the rapid growth of renewable energy.

In a report launched at the Assembly of the International Renewable Energy Agency (IRENA), the Global Commission on the Geopolitics of Energy Transformation says the geopolitical and socio-economic consequences of a new energy age may be as profound as those which accompanied the shift from biomass to fossil fuels two centuries ago. These include changes in the relative position of states, the emergence of new energy leaders, more diverse energy actors, changed trade relationships and the emergence of new alliances.

The Commission's report 'A New World' suggests that the energy transformation will change energy statecraft as we know it. Unlike fossil fuels, renewable energy sources are available in one form or another in most geographic locations. This abundance will strengthen energy security and promote greater energy independence for most states. At the same time, as countries develop renewables and integrate their electricity grids with neighbouring countries, new interdependencies and trade patterns will emerge. The analysis finds oil- and gas-related conflict may decline, as will the importance of certain maritime chokepoints.

The energy transformation will acreate new energy leaders, the Commission points out, with large investments in renewable energy technologies strengthening the influence of some countries.

Commission Chair Olafur Grimsson said,"This represents the first analysis of the impact of the energy transition driven by renewables. A fascinating geopolitical future is in store for countries in Asia, Africa, Europe and the Americas. The transformation of energy brings big power shifts."

BRIEFS

Trafo transformers ready for treatment works


Image Credit: Trafo Power Solutions

Trafo transformers will be used for a wastewater treatment plant near Vereeniging.

Dry-type transformer specialist Trafo Power Solutions secured the order for 13 cast resin units for Rand Water's large Zuikerbosch Wastewater Treatment Works near Vereeniging. The water purification facilities at Zuikerbosch will reportedly provide an additional 600 Ml per day to the system at a project value of R3bn, as part of efforts to meet growing water demand in Gauteng due to steady population migration into the province. The transformers range from 100 kVA to 1,600 kVA.

Lekela signs PPA for Egyptian wind farm


Image Credit: Adobe Stock

The Egyptian wind farm near Ras Ghareb will be completed by 2021.

Lekela Power has signed a Power Purchase Agreement with the Egyptian government for a 250MW wind farm project.

It will form part of the Government's Build, Own, Operate (BOO) scheme and be installed near Ras Ghareb by 2021.

Lekela's CEO Chris Antonopoulos said, "Egypt has a target of achieving 20 per cent renewable power in its overall energy mix by 2022. It will increase Egypt's wind energy capacity by 14 per cent."

South Africa's power industry at a crossroads

Eskom remains vital to South Africa's economy, yet its future role in supplying the nation's electricity remains far from certain – a scenario that could pave the way for more private sector involvement in the power industry.

Power station in Mpumalanga, a province in eastern South Africa.

Image Credit: Pixabay

It is a defining period for South Africa's once-proud energy sector. Gone are the days of abundant surplus, when state utility Eskom proudly sat upon the bulk of Africa's electricity supply. Now, supply and demand is far more evenly poised, with daily alerts on potential load shedding keenly monitored by businesses and the public at large. The successes of past decades – when the utility ratcheted up installed capacity tenfold, from around 4,000MW to 40,000MW from 1960 to 1990 – seem a long time ago.

How times change. After stepping up electrification efforts in the Mandela era to bring modern electricity to the nation's poor, Eskom was caught short a decade later with chronic shortages as a result of under-investment in new capacity. It prompted a huge – and costly – roll-out in new coal-based generation. It prompted a hotly-contested debate on the role of the private sector in an industry dominated by the state, as well as the continued use of coal and nuclear at a time of mounting environmental concern. Corruption scandals, mismanagement, ratings downgrades and ongoing pressure on the utility's finances have likewise eroded confidence.

Real challenge

Yet South Africa remains the continent's biggest economy, with a voracious appetite for energy, despite anaemic growth rates in recent years. While renewable energy and independent power projects (IPPS) are creeping in to the energy mix, Eskom – the standout biggest supplier, accounting for about 90 per cent of the nation's electricity – is in crisis. Power shortages have throttled business and industry and further eaten up confidence in Africa's most industrialised country.

> "Eskom is too big and too important to fail"
>
> CYRIL RAMAPHOSA, PRESIDENT OF SOUTH AFRICA

It is a major challenge for South Africa's President Cyril Ramaphosa, who is trying to find solutions to turn the ailing company around. But it's hard to see an easy answer. Burdened by crippling debts of around US$31bn and regular losses (annual losses are forecast until 2022), which have trapped the utility into a cycle of borrowing to repay its debts, the question is: can Eskom avoid a financial death spiral?

Ratings agency Moody's reacted negatively last year to the notion that the utility might transfer its total debt to the government. Ramaphosa has ruled out that option as it would inflate the nation's own huge debt burden too much; most of Eskom's debts are already state-guaranteed. The president has, however, stated that the utility is simply "too big and too important to fail", amid speculation that Eskom could be broken up into distinct business divisions covering generation, transmission and distribution. Industry has likewise responded with fury to proposed tariff hikes of 15 per cent, as the power utility frantically seeks to claw back some money.

Private sector

Though a solution may yet be a way off, Ramaphosa has also noted that restoring energy security to South Africa is now a priority. While this all spells uncertainty for Eskom, it could open new avenues for private sector players, as the government seeks to shift the financial burden for energy provision in order to create a more viable model for the future.

It could mean South Africa is on the cusp of a major energy shift, not only in terms of the future look of Eskom and the role of private companies, but, at the same time, with the nation plotting a course to more sustainable energy sources long term. That includes a proposal to phase out the giant coal-fired power stations that underpin the nation's energy supply over the next few decades.

Many argue that the nation's interests might be better served with the mass roll out of renewable energy capacity and the encouragement of micro grids, which would open up large swathes of the country cut off from the traditional grid system. It is a far cry from the previous Zuma administration and its push towards more nuclear energy; South Africa already has a long history of nuclear power with the Koeberg plant in Cape Town, which has been in operation for almost 35 years.

Election year

And it does not get any easier: Eskom said in February that it expects to make a further loss of R20bn (US$1.5bn) in the current financial year. It also negotiated a further R15bn (US$1.1bn) state-backed loan with a variety of banks to navigate its funding gap.

At the same time, unions have voiced opposition to unbundling plans, though businesses – including the powerful mining industry, which gulps about a third of South Africa's electricity demand – is keen to see changes.

Then there is the issue of timing. Making real improvements during an election year could prove tricky. Investment bank Goldman Sachs said in January that any "deeper-cutting and more comprehensive policies may only be possible post-elections", which are likely to take place this May.

The bottom line is that South Africa's electricity supply system is no longer viable as it stands. While solutions and alternatives are being sought – and at pace – greater public awareness has put Eskom and the nation's energy crisis at the top of the agenda this election year. ■

POWER AND ELECTRICITY WORLD AFRICA

This month sees the next instalment of one of Africa's biggest power industry trade events, Power and Electricity World Africa. The event, which takes place on 26-27 March at the Sandton Convention Centre in Johannesburg, South Africa, will attract attendees and VIPs from across the continent and is supported by host utility Eskom.

Visit www.terrapinn.com/exhibition/power-electricity-world-africa

The Egyptian government has set a renewable energy target of 17,208MW for 2020,

Image Credit: Adobe Stock

Renewables progress in Egypt and Ethiopia

Riccardo Bicciato, local partner and member of the Energy & Infrastructure Focus Team at BonelliErede in Cairo, and Mahlet Kassa, senior associate from Tameru Wondm Agegnehu Law Office in Ethiopia talk on the importance of foreign direct investment in boosting development of renewables.

Africa's economy is gradually picking up from the slowdown over recent years, with a number of industries predicted to lead its future growth. Among these, it is clear that the energy sector is set to play a crucial role in the development of both north and sub-Saharan African nations. As a result, boosting energy production and capacity and attracting investments have become top priorities for all African economies, and renewable energies are proving to be a competitive, sustainable way to achieve these objectives.

Renewables especially wind and solar PV are becoming ever more competitive in terms of costs, compared to fossil-fuelled power, and the costs are expected to continue decreasing. Countries with high renewables potential, such as Egypt and Ethiopia, are keen to accelerate their development and intent on increasing their energy mix.

The Egyptian Integrated Sustainable Energy Strategy to 2035 sets renewable energy targets of 20 per cent of the electricity mix by 2022 and 42 per cent by 2035. Similarly, the Ethiopian Growth and Transformation Plan II (GTP II) for 2015–2020 considers the development of clean and carbon-free renewable energy sources (including hydropower, wind, geothermal and solar energy) a pillar of the government's energy strategy and sets a renewable energy target of 17,208MW for 2020. The current energy policy is under revision by the Council of Ministers (as recommended by the Ethiopian Energy Authority). Furthermore, Ethiopia aims to increase electricity cover from 60 per cent to 90 per cent and increase energy production capacity to 63,207GWH by 2019/20.

The achievement of the above targets will require major private investments in a relatively short time, which will be possible only if the government creates and maintains the conditions to ensure access to financing.

Egypt

Great strides have already been taken by the government, including a wide-reaching programme of reform that has significantly improved the business climate for foreign direct investors and the legal framework for the renewable sector. These reforms include the introduction of Investment Law No. 72 of 2017, Renewable Energy Law No. 203 of 2014, and Electricity Law No. 87 of 2015 (and the related ministerial decrees), which sets the basis for the feed in tariffs for electricity produced from renewable energy projects and encourages investment in renewable energy.

The government has also introduced various procurement and support schemes, including competitive bidding for EPC and BOO contracts, feed-in tariffs, independent power production through third-party access, and a net metering mechanism. All these efforts have created favourable conditions for public-private partnerships and laid the groundwork for mitigating the typical risks associated with investing in renewables.

Ethiopia

The renewables market is still in the early stages and, consequently, short of a track record, which may make it more difficult to secure financing for renewable projects. However, the government has been demonstrating its strong commitment to the development of renewables by improving the business climate for foreign direct investors and by creating the best conditions to accelerate the development of renewables.

Concrete examples include the current revision work of the Commercial Code of Ethiopia, the purpose of which is to make it easier to do business in the country, and the Public-Private Partnership Proclamation, which allows the private sector to provide public services by partnering with the public sector on projects related to the design, construction, maintenance and operation of infrastructure facilities. In the energy sector specifically, the government has invested substantial time and effort in the proposed revision of its overall energy policy to create a more balanced energy mix and to reform the legal framework for independent power producers (IPPS) through a new energy regulation on IPPs and expressly approving the implementation of IPP agreements.

Looking forward

Great progress has been made, but there is still much room for improvement in both Egypt's and Ethiopia's renewable energy policies. Finding the right recipe to unlock the full potential of renewables is a learning process – and it is unique to each country.

But one thing is certain for both countries (as well as for all African countries): the crucial role that foreign direct investment can play in boosting development of renewables and, therefore, in accelerating their energy transition, economic diversification and increased economic and social development. ■

Powering Africa's telecom towers

Bladon Micro Turbine recently launched Bladon MTG12: a microturbine genset built upon patented micro turbine, heat exchanger and air bearing technologies, at the TowerXchange industry conference in Johannesburg. *African Review* speaks with Stuart Kelly, VP Market Development for Bladon Micro Turbine.

Bladon Micro Turbine is the world's first manufacturer of microturbine gensets for powering telecom towers – can you explain how the business operates?

SK: We are in the business of providing distributed power to the telecom market, as a more efficient alternative to diesel generators. There are hundreds of thousands of diesel generators deployed around the planet, providing discreet reliable energy to mobile phone towers right now and because of the lack of reliable grid connections and because even in cases where there is a grid, it may not be on 24 hours a day. The alternative of choice has been diesel generators but the downside is that they are expensive to run. You have service overheads so most generators require monthly maintenance checks. They consume a lot of fuel and are exposed to theft, are noisy and emit high carbon emissions.

How do your generators solve this issue?

A couple of years ago, we identified an opportunity to solve a lot of those issues using microturbine technology. Imagine instead of a piston engine inside the generator we use a rotating shaft – that looks like a turbo charger with a wheel on it. It runs at very high speed and instead of running on a traditional oil based shaft it actually uses bearings that rotate in air.

The Bladon MTG is extremely quiet, and as it does not vibrate, it solves the noise issue that most people have with generators. Because it runs without any oil or any oil filters, the notion of servicing goes away – instead of once a month, it only requires a yearly check-up. Although the generator can run on diesel, which is the fuel of choice in Africa, because it has a turbine and not a piston engine, it continually burns whatever fuel is in it. You can use Kerosene, heating oil or paraffin and it will still run. Our clients have been able to mix fuels like putting diesel and paraffin in the fuel tank at the same time. This does two things: in a lot of countries like South Africa for example, paraffin is cheaper per litre than diesel, so if you switch to paraffin straight away your fuel cost goes down by a third. Secondly, if you mix it, it also means it is unattractive for people to steal because it won't work in the diesel engine of a car. Theft of fuel and theft of batteries is a problem in a lot of these networks and we have the only technology that can proactively address the issue of theft because we can mix fuels.

Image Credit: Bladon Micro Turbine

The team at Bladon Micro Turbine.

Image Credit: Bladon Micro Turbine

Bladon MTG engine.

How has the company ensured the genset's impact on the environment is minimised?

SK: There are multiple facets to it. Oil is one, fuel is another – although we are still using diesel, we burn it more completely at a higher temperature and thus it gives off 60 per cent less emissions than a regular diesel genset, so a lot of people who see it for the first time running say it even smells different. It is not the first time microturbines have been built but it is the first time microturbines have been applied to this market. In October, we commercially launched the Bladon MTG12 at the TowerXchange conference in Johannesburg. We just started shipping volumes via our distributor in Johannesburg last month. We have a distributor called Abbott Technologies based in South Africa but they have a presence in 10 other countries in Africa, allowing us to deploy hundreds of units this year to South Africa, then Uganda, Kenya, Madagascar, Malawi, Nigeria and DRC.

There is a huge growth in Africa's telecom tower market – how important is that region to you?

SK: It is the most important for a variety of reasons. First of all, a great many towers that needs to be built in Africa because of the soaring population growth. There are almost 200,000 towers in Africa now, but we need to build another 100,000 towers to cover the population and this does not include rolling out 5G.

How does Bladon Micro Turbine compare to other cell site energy providers?

SK: Our main strategy is to replace traditional diesel gensets without radically changing the supply chain. We are saying to people: all you have to do to start saving money straight away and reduce total cost of ownership by 30 per cent is replace your old diesel generator with a Bladon MTG and change nothing else. ■

Micro-hydropower generation in Kenya

The Kenya Tea Development Agency shares how tea factories in the mountainous Central Kenya region are benefitting from hydropower generation.

Gurua hydropower station in Nyeri County.

Image Credit: Mwangi Mumero

Over the last couple of years, the Kenya Tea Development Agency (KTDA) which oversees 68 tea factories in the country has been investing in micro-hydro power stations to cut the rising cost of power.

At least US$48mn has been invested in constructing the first four micro-hydropower stations with plans to increase the number to 22 in the coming years.

In the past, farmers' earnings had declined due to hike on power prices that had eaten deep into the farmers' profits.

"Energy costs account for about 30 per cent of the operation cost in tea factories. Electricity accounts for 17 per cent alone. The hydropower plants will cut operation costs as well as earn income through the sale of excess power," said Lerionka Tiampati, KTDA's chief executive officer.

On average, according to KTDA, each tea factory spends between US$30,000 and US$65,000 on electricity annually.

In the last decade tea factories have been accused of destroying forests for fuel wood in their operations. A former environment government minister once alleged the KTDA factories were agents of deforestation forcing farmers and officials to find cheaper alternative power sources.

On average, a tea factory uses 0.5 megawatts (MW) to run its operations. According to Tiampati, factories in tea growing regions should invest in alternative energy.

> "The hydropower plants will cut operation costs as well as earn income through the sale of excess power"
>
> **LERIONKA TIAMPATI, KTDA'S CHIEF EXECUTIVE OFFICER**

Four years ago, KTDA obtained a US$55mn loan from the International Finance Corporation (IFC) in partnership with global partners to fund the construction of seven small hydropower projects across the tea growing regions. In turn, the projects would create 2,100 jobs during the construction of the project and 60 jobs after commissioning it.

"Access to power is one of the key constraints for agriculture in Africa. This innovation is to address power shortages by developing its own captive and renewable power supply by KTDA," observed Oumar Seydi, IFC director for Eastern Africa during the signing ceremony.

Seydi said reducing processing costs will help make Kenya's tea sector more competitive in a global marketplace and increase revenues for the 560,000 farmers who supply green leaves to the 66 KTDA-managed tea factories.

Majority of these factories are found in hilly and rainy areas where the speed of water is fast.

The hydropower projects are located in the mountainous Central Kenya region. They include Nyamindi (Kirinyaga County), North Mathioya (Murang'a County) and Iraru and South Mara – both in Meru County. Others are Gura (Nyeri County), Chania (Kiambu County) and Imenti (Meru County).

According to an agreement with the government, the KTDA power stations are not supposed to dam the rivers but use the high gradients to raise the speed of moving water and generate power.

Tunnels are constructed to channel the fast flowing water to a power station on the lower ground.

One of the stations currently operational is the 5.8MW Gura hydropower station located in Nyeri County. Constructed by the Sri Lankan firm VS Hydro, the US$15mn station serves four KTDA affiliated factories; Gathuthi, Gitugi, Iriani and Chinga.

Work involved dredging a 7.7km canal, construction of a power house and transmission lines to the four factories in the Othaya and Tetu sub-counties.

> "With the small hydropower stations, the goal is to have cheaper electricity in the medium term"
>
> **JAPHETH SAYI, THE KTDA POWER COMPANY GENERAL MANAGER**

Lucas Maina, a KTDA agent in charge of the four factories, said each of the factories uses 0.5MW with the rest being sold to Kenya Power, the sole buyer of electricity in Kenya.

Extra power may also be extended to the neighboring factories in Murang'a county, according to Peter Gachago, KTDA national Chairman.

In particular, each of the four beneficiary factories will save about US$445,434 annually on power costs.

Hydropower stations

One operational hydropower station includes the 1MW Imenti station in Meru County, which is connected to the Imenti Tea Factory. Another is the 1MW Chania Station in Kiambu County which is supplying Mataara and Ngere factories.

Others expected to be operational soon include Iraru (1.5MW), South Mara (2.2MW), Lower Nyamindi (1.8MW), North Mathioya (5.6MW) and Nyambunde (2MW).

The agency has been pre-qualifying engineering, procurement, and construction contractors for other small hydropower plants.

The Mathioya hydropower station currently under construction will cost US$22mn and will produce 5.6 MW of electricity and supply four factories: Githambo, Kiru, Gatunguru and Kanyenya-ini.

With the increased investments in these micro-hydro stations, contractors have been hoping to cash in on the projects.

Chinese company JIANGXI Water and Hydropower Construction Kenya is the main contractor in the Mathioya station. Andritz Hydro is supplying two 930 Compact Francis turbines for the Lower Nyamindi and one 2.2MW six-jet vertical Compact Pelton turbine for HPP South Mara.

"With the small hydropower stations, the goal is to have cheaper electricity in the medium term. This will in turn lower the operating costs for the factories and produce better return for smallholder farmers who own these factories," observed Japheth Sayi, the KTDA Power company general manager.

KTDA Power is a KTDA subsidiary in-charge of the power generating plants.

Experts say that with no damming of water required in the small hydro projects – the overall costs and environmental implications are reduced.

"The hydropower generation aims at reducing the cost of energy, improve power reliability and whenever possible sell the excess power to the national grid. With rampant power outages, sometimes reaching 14 per cent, tea factories have been forced to invest in diesel-run standby generator, pushing the cost of power," said Japheth Sayi, who is also a mechanical engineer and has been involved in the development of these Run-Off-River (ROR) systems.

The cheaper cost of power has seen the benefits trickle down to farmers in rural mountainous tea growing regions of Kenya: the straddling Aberdare Ranges and Mt Kenya.

"At least the tea bonus payments have improved and stabilised since the new power station was constructed. We are receiving better returns in consequent years," said James Kariuki, a farmer in Gaturuturu village, whose farm lies in the Aberdare Ranges. The farmer delivers his produce to Gitugi Tea Factory, one of the four factories connected to the Gura hydropower project. ■

By Mwangi Mumero

BOWMAN POWER ACHIEVES UHC EMISSIONS REDUCTION FOR GAS GENERATORS

Bowman Power Group has conducted emissions trials on a gas fuelled generator to investigate the effect of using its Electric Turbo Compounding (ETC) technology on unburnt hydrocarbon (UHC) emissions. Initial findings indicate a 25-50 per cent reduction in UHC emissions, in addition to the previously proven benefits in respect of improved engine efficiency and reductions in CO_2 emissions.

This was achieved by reducing the scavenging pressure in the engine cylinders, almost entirely eliminating fuel short circuiting and also reducing the release of non-combusted fuel.

Paul Dowman-Tucker, CEO of Bowman, commented "The global energy mix needs to be greener and more energy efficient. From day one that's what we have set out to do with our ETC technology, enabling more efficient and cleaner operations with fossil fuels where it is necessary to use them. These latest results are truly exciting and, coupled with our existing strong track record for reducing CO_2 emissions, really cement our commitment to this goal."

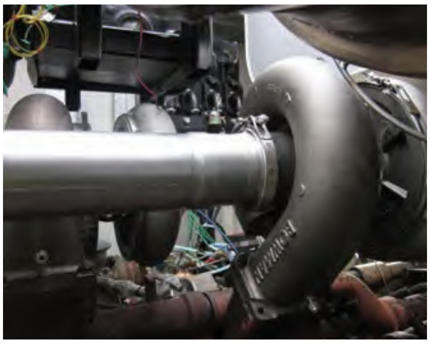


Image Credit: Bowman Power Group

Bowman Power Group's ETC technology can reduce UHC emissions by 25-50 per cent.

Keith Douglas, head of performance engineering at Bowman, added, "This achievement is yet further indication of how unique the ETC system is. We are not aware of any other technology that can be fitted to an engine to significantly reduce unburnt hydrocarbons, whilst improving fuel consumption."

The rise in the use of gas fuelled generators has led to a rise in UHC emissions, including methane which has a greenhouse gas effect 25-100 times that of CO_2. This has led to the need for tighter UHC emissions regulations. In anticipation of this legislation, Bowman has continued to evolve its understanding of how its ETC technology interacts with the engines and generators it is installed on.

MAKING USE OF GAS AS A POWER SOURCE IN SA

As South Africa looks to make greater use of natural gas – and even landfill gas – in the generation of electricity, the good news is that the country has world class engine component remanufacturing capacity to optimise the lifespan and reliability of these generating sets.

At Metric Automotive Engineering in Germiston near Johannesburg, skilled staff and cutting edge facilities have been hard at work for decades, remanufacturing diesel and gas engine components to meet the exacting original equipment manufacturer (OEM) standards, says operations director Andrew Yorke.

"Making more use of gas as a power source is an exciting prospect for South Africa, both in terms of its reasonable cost and its lower environmental impact," says Yorke. "However, equally positive is the fact that the expertise and state-of-the-art equipment to remanufacture these engine components is already here, and doing this work locally supports the economy, reduces turn-around times and cuts costs."

He notes that while natural gas is generally a clean burning fuel, landfill creates a much harsher environment for an engine, as it is difficult to control the level of contaminants in gas that emanates from any landfill. This significantly reduces the intervals that the engine will require between maintenance interventions.

"The relatively poor quality of gas requires advanced ignition monitoring systems in the engine, but the wear rates remain high due to the highly abrasive post-combustion residue, despite filtering of the gas," he says. "With natural gas, cylinder heads will need to be replaced every 20,000 to 30,000 hours."

Trafo Solutions settles voltage shift

When a Gauteng-based pharmaceutical manufacturing facility decided to upgrade its electrical systems, it discovered severe voltage fluctuations which could reduce the life and performance of its equipment. Trafo Power Solutions solved this potential headache with a fast track installation.

Image Credit: Trafo Power Solutions

A dry-type transformer solution was fast tracked to assist a pharmaceutical manufacturer.

"In line with global best practice, the pharmaceutical company had assessed its safety risks and decided to relocate its factory's substation," says Trafo Power Solutions managing director David Claassen. "With its focus on safety and quality, the company also elected to switch to a dry-type transformer due to this technology's high level of safety and low environmental risk."

The absence of oil in the cooling systems of these cast-resin transformers means that they are safe enough to be installed indoors and pose minimal environmental hazard as there is no chance of oil-spills. However, when the electrical consultants responsible for the new substation conducted their regular tests at the factory site, they discovered a concern regarding the power feed. Power measurements and data logging indicated that there were large voltage fluctuations on the power line coming into the factory.

"We discussed possible remedies with the consultants and – after more analysis and conceptual design work – a decision was taken to include an automatic on-load tap-changer in our transformer solution," says Claassen.

He explains that a standard transformer is usually fitted with fixed tappings; an arrangement that assumes a consistent supply of a specific voltage into the system. Dealing with voltage fluctuations under these conditions usually has to be done manually. This process is both time consuming and costly in terms of operational disruptions caused by power having to be turned off and on quite often.

"An automatic on-line tap-changer, by contrast, can adjust the tap settings itself, while there is load on the incoming line," he says. "By installing nine different tap settings of 1,875 per cent steps on our transformer the nominal voltage supplied to the factory remained constant throughout a wide range of voltage fluctuations. This enhanced production uptime and minimised the risk of any damage to the factory's equipment."

ALUZINC IS A GAME CHANGER FOR MCCS AT SHAW CONTROLS

The replacement of steel with aluzinc in the manufacture of Shaw Controls motor control centres (MCCs) is giving a range of benefits to the company's customers, according to the company's senior manager operations, Anderson Kohler.

"Traditionally, we used only steel for our MCCs, which needs to be powder coated in order to protect it from corrosion," says Kohler. "This made it necessary to follow quite a long process in completing our products – a process which aluzinc can now simplify and speed up."

The usual process of preparing the MCC panels includes welding, grinding and pre-washing before the powder coating painting process can take place. These phases can now be bypassed by using aluzinc which is a material that effectively resists corrosion without a protective coating being applied.

Kohler highlights the extended lifespan of aluzinc, which comprises 55 per cent aluminium, 43.5 per cent zinc and 1.5 per cent silicon. Manufacturers of the product guarantee that it will last for about 35 years before any major maintenance is required.

"The powder coating of steel panels complicates the earthing requirement on an MCC, as the paint layer insulates the panel and prevents conductivity," he says. "This means that technicians and installers must take special care to ensure that proper contact is made between the unit and the earth connection."

For instance, the use of star washers must be strictly enforced among installation staff. Alternatively, certain areas of the MCCs are left unpainted to allow for earth connections. Kohler points out that this does raise the concern that it only takes a small oversight and the earthing will not be fully effective. The use of aluzinc eliminates this issue as there is no longer a paint layer between the earth connection and MCC panel.

Image Credit: Zest WEG Group

A live control voltage 110 VAC door being installed on a Shaw Controls aluzinc motor control centre.

There is also the possibility of painted parts being scratched or damaged during transport and installation. When this occurs, it leads to the time consuming task of being returned to the factory for proper powder-coating, further delaying the installation and commissioning process. Indeed, if there is a need to weld again for any reason, then there is a repeat process of grinding and pre-washing before painting again

Kohler highlights that the corrosion-resistant properties of aluzinc allows parts to be kept in stock, ready for quick assembly. He notes that this is not possible with mild steel due to corrosion.

"By introducing the use of aluzinc in the manufacture of our MCCs, we can reduce the lead time on components by as much as two to three weeks, and this is a time-saving that we can pass on to our customers by delivering more quickly," he says.

EGE PLUG AND PLAY SOLUTION MAKES FLOW MONITORING EASY

Ease of flow monitoring with low maintenance benefits is a given with the compact plug and play EGE SNS 450 thermodynamic flow sensor from Countapulse Controls, the firm says.

According to Gerry Bryant, managing director of Countapulse Controls, sole southern African agent for EGE's full range of flow sensors and controllers, the innovative screw-in adapter on the EGE thermodynamic flow sensor allows for universal use in a variety of applications.

The adapter is screwed into a T-piece or a welding sleeve and the probe is then secured in this adapter using a union nut. Users are reassured of the integrity of the connection, which is sealed up to 100 bar. The EGE sensor, which includes an LED display for ease of use, can function in temperatures from between minus 20 to plus 80°C and is suitable for controlling the flow of fluids such as water, glycol mixtures and chemicals. Ingress protected to IP67 standards, the design of the sensor, which features no moving parts, is focused on elimination of failure that would typically be caused by oxidised bearings, torn impellers or deflector deformation.

With a robust construction the EGE flow sensor is resistant to corrosion and is ideal for use in liquids and air, as well as in hazardous environments.

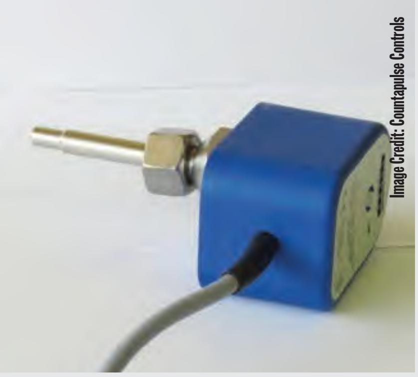


Image Credit: Countapulse Controls

The compact plug and play EGE SNS 450 thermodynamic flow sensor provides ease of flow monitoring with low maintenance benefits.

"This is a welcome addition to the Countapulse Controls product line-up and complements the company's existing range of sensing solutions; all geared around reliability and longevity combined with uncompromising accuracy," says Bryant.

Countapulse Controls offers a comprehensive range of sensing, measurement, counting, switching, monitoring and positioning instrumentation, with customer support provided through a round-the-clock technical advisory service hotline.

FLSMIDTH JOINS FORCES WITH LINHLEKO TO EXTRACT CHROMITE FROM WASTE AT RECOVERY PLANT

FLSmidth has joined forces with black-owned metallurgical consultants Linhleko Projects to extract chromite from waste at Sibanye-Stillwater's Rustenburg Platinum Waterval chrome recovery plant.

The unique cooperation agreement, launched in February, equips Rustenburg-based Linhleko with guaranteed access to FLSmidth's leading Reflux Classifier technology in a modular plant solution. An outcomes-based contract with Sibanye-Stillwater will allow the miner to improve revenue through additional chromite sales, without incurring capital costs.

"Driven by sustainable productivity and innovative business models, the partnership is executing a BOOT deal with the end-client," says Terence Osborn, FLSmidth's director for engineering and technical support in Africa and the Middle East.

The Reflux Classifier has shown that it can re-treat platinum interstage and waste streams to recover chromium oxide at a product grades of over 40 per cent, said Buang Moloto, managing director at Linhleko, adding, "Our FLSmidth modular plant will add value to the mine."

Investment in construction machinery sector on the rise in Africa

Klaus Dittrich is the chairman and CEO at Messe München.

Africa has topped a survey where investment levels in the construction machinery industry will continue to soar in the future.

Sixty eight per cent of respondents were optimistic about the upward trend of investment in the construction machinery industry on the continent, followed closely by Asia at 67 per cent and Europe at 42 per cent. For Germany, it was 39 per cent, and this was potentially due to the economic and political uncertainty surrounding Brexit, said Klaus Dittrich, chairman and CEO of Messe Munchen during his opening speech at the pre-bauma media dialogue in Munich in January.

However, the findings overall from the bauma Industry Barometer, which polled 10,000 industry experts from 13 June to 10 August, 2018, showed that the willingness to invest in the construction machinery industry was on a very high level globally and remains to be "cautiously optimistic in the coming years".

"During the bauma year 2019, the industry is doing brilliantly. The majority of the respondents assume that investments will remain at a high level. This illustrates the extraordinarily positive mood with regard to the economic development of the construction machinery industry. But it also shows that an above-average willingness to invest is necessary in order to remain competitive in the long-term," added Dittrich.

Other important findings revealed that more than half of the participants regard the shortage of skilled workers as the greatest challenge for the industry especially for the traditional industrialised countries, but less so for populous countries such as China and India. Over a third believed increasing competitive and price pressure was another concern, followed by 24 per cent citing tighter environmental laws and regulations a challenge where almost a fifth were challenged by the threat of digitising business processes – and only four per cent saw themselves as leaders in digitisation.

At bauma, 2019 the digital construction site and construction machines will be brought to life with the help of virtual and augmented reality. bauma is the world's leading sector event for construction machinery, building material machines, mining machines and construction vehicles.

ABIDJAN-LAGOS HIGHWAY IS APPROVED BY AFDB

The African Development Bank (AfDB) and the Economic Community Of West African States Commission (ECOWAS) have signed an agreement for a study into a 1,000 km highway between Abidjan and Lagos.

The proposed six-lane motorway will connect the countries via Ghana, Togo and Benin. The agreement comes about five years after the presidents of Côte d'Ivoire, Ghana, Togo, Benin and Nigeria, signed a treaty on the establishment of the highway in March 2014.

The AfDB has approved a financing package of US$12.6mn to finance part of the study for the project and mobilised a US$10.38mn grant from the EU Commission, bringing the total financing for this important study to US$22.7mn. By linking some of Africa's largest and economically dynamic cities, the road will promote cross-border trade and integrate fast-growing economies within the ECOWAS. This is expected to reduce the poverty levels of the population that depends on inter-regional trade for a livelihood.

BOBCAT LAUNCHES 1 TONNE ELECTRIC MINI-EXCAVATOR

At Bauma 2019, Bobcat is launching the E10e electric mini-excavator, the industry's first commercially available fully electric, zero tail swing (ZTS) mini-excavator in the one tonne class.

With no emissions, a low noise operation and a width of just 72 cm, the new E10e can easily pass through standard doors and in and out of lifts, making it ideal for indoor applications such as demolition and basement construction. In addition, by coupling the E10e to an optional external Bobcat super-charger while operators are on normal work breaks, the E10e can operate for a full eight hour working day.

Pioneering the Industry

At the last Bauma exhibition in 2016, Bobcat attracted great interest from visitors with the prototype of the E10e. Being one of the pioneers in this area with the E10e, Bobcat says it has helped to inspire the increasing focus on electric construction machines including excavators and, in the last few years, the industry has clearly started to move in this direction.

The reasons are twofold: to be environmentally friendly for customers, but there is a clear and dedicated business need for zero emission and low noise excavators for some specific applications. As well as indoor demolition and basement projects, these include city centre developments.

BRIEFS

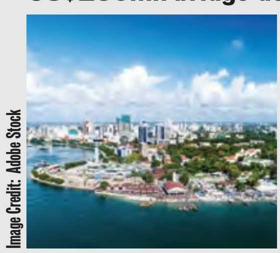
New city to be built in the North West Quadrant.

Nigeria to build new city

Nigeria is to build a new modern city in the Lekki Free Zone in Lagos, according to media reports. Akinwunmi Ambode, Lagos State Governor confirmed the US$249mn project has been designed by developers Rendezvous.

Ambode said, "We embarked on this course of action and sought private sector partners to support our objective to develop every part of our state because we know that government, on its own, would be unable to achieve this."

US$250mn bridge deal in Tanzania



A six-lane bridge is due to be constructed in Dar es Salaam.

The Tanzania National Roads Agency and Sumitomo Mitsui Construction Company have partnered together to build a six-lane bridge in Dar es Salaam.

The Japan International Cooperation Agency will be funding the US$250mn bridge.

"US$222mn will be spent on the contractor while US$28mn will be spent on Ingerosec Corporation of Japan, the consultancy company for the project," said Isack Kamwelwe, transport minister.

MASTERCLASS MAINTENANCE AND RELIABILITY PRACTITIONERS

Advanced course on
ICRCM's Body of Knowledge with
CRCMP examination
(CRCMP - Certified RCM Professional)

Accredited by

International Council on Reliability Centered Management

WORLD CLASS MAINTENANCE FOR AFRICA

DATE: 8TH - 10TH APRIL 2019

LOCATION: JOHANNESBURG, SOUTH AFRICA

CONTACT US FOR LOCATIONS NEAR YOU

training@alaincharles.com
UK: +44 (0) 20 7834 7676
India: 91 81 470 53107

Image Credit: Adobe Stock

Safeguarding construction operations

Strong local consultation and heightened security are integral to a construction industry facing diverse threats.

Africa's construction industry is facing up to a new threat: security. In some instances, especially in emerging markets, construction projects have been targeted specifically.

"A number of security threats in sub-Saharan Africa in recent months have highlighted the risk posed to the construction sector from violent protests, terrorist attacks and insurgencies in the region," stated a report from Fitch Solutions. In some cases, this has resulted in company withdrawals, disruption or delays to completion timelines. Longer term, it says, a more general rise in violence may serve to derail foreign investment in the industry.

At a time when Africa so desperately needs development, and the cash to do it, it makes for a worrying scenario.

The research highlights 'frontier markets' such as Sudan, Zimbabwe, Mozambique, the DRC and Somalia as at highest risk from security threats to the construction sector. However, even more stable and attractive markets in the region are exposed to potential disruption.

"In recent months, we have seen a number of security threats affecting the construction sector in a broad swathe of sub-Saharan African markets," the report said. "These include both specific threats targeting construction projects, as well as more general violence which will weigh on activity."

In the so-called frontier markets, it reckons terrorist attacks or widespread protests are likely to undermine investment in 2019 and beyond.

In contrast, some of the fastest-growing markets in the region, with strong investment opportunities for foreign firms, are comparatively lower risk from a security point of view, including Tanzania, Côte d'Ivoire, and Ghana.

"More concerning from an investor perspective are the security threats emanating from larger and more attractive construction markets such as South Africa and Kenya," the research adds.

In South Africa, criminal activity and community protests pose a threat to greenfield projects, particularly with high unemployment and acute demand for jobs among locals.

It means strong local consultation processes and on-site security are now integral to success.

> "We've seen a number of security threats affecting the construction sector in a broad swathe of SSA markets"
>
> **FITCH SOLUTIONS**

In Kenya, the potential for sporadic and deadly terrorist attacks is a greater concern, particularly for high-profile projects such as Lamu Port and the standard-gauge railway.

Both of these mega projects are under development by Chinese state-owned enterprises and are therefore likely to be well protected by state security forces.

Nonetheless, ongoing terror threats could weigh on non-Chinese foreign investment in Kenya's construction and infrastructure market going forward.

The risks can be high, especially where new infrastructure projects are located in remote regions, making them highly visible targets.

An influx of foreign workers can likewise trigger unrest among local populations – protests against strong and sometimes violent opposition.

High profile construction projects are also a major target for terror groups in sub-Saharan Africa.

Fitch Solutions says foreign construction workers can be vulnerable to abduction or attack, underlining the need for more stringent security, though this, of course, has a knock-on effect.

"This significantly increases insurance premiums and security costs for foreign investors," it states.

The Niger Delta Avengers represent the clearest example of this, with activities against the oil and gas sector in Nigeria causing severe disruption in 2016. In eastern Africa, terrorist groups such as al-Shabaab remain active and have the potential to target works across the region. ■

2019 SECURITY ALERTS

Somalia (February 2019)
The construction manager on DP World's port project at Bossasso was killed in an attack by Islamist militant group al-Shabaab.

South Africa (February 2019)
Strabag and Aveng announced they were terminating their joint venture to construct the US$130mn Mtentu Bridge due to local opposition, including protests and violent threats, based on the perceived lack of local jobs created by the project.

Kenya (January 2019)
An attack claimed by al-Shabaab targeted an office and hotel complex in the Westlands area of Nairobi, resulting in 21 deaths.

Zimbabwe (January 2019)
Widespread protests following the introduction of a 150 per cent hike in fuel prices, resulting in a harsh crackdown by armed forces.

What's ahead at bauma 2019

bauma, the world's leading construction machinery event, will be taking place in Munich on 8-14 April.


Image Credit: Enerpac

SL100 and SL200 gantries offer higher lifting capacities.

Enerpac launches new trolley, gantries and cube jack systems

Enerpac is expanding its range of lifting systems for industrial movers and heavy lift contractors with the launch of new trolley and cube jack systems, and telescopic hydraulic gantries, at Bauma 2019 on booth FS 1105/1. The booth will feature new high tonnage and telescopic cylinders, as well as the growing range of Enerpac industrial tools now available for construction and mining projects.

The Enerpac Trolley System ETR1250 provides an alternative method with increased benefits over traditional skidding methods.

SCJ50 50T Cube Jack is designed to provide an alternative to traditional climbing jack systems and works in a similar way to Enerpac's current jack-up system but without the necessary electrical controls.

The new SL100 and SL200 gantries offer higher lifting capacities and accurate load positioning on a narrow 610mm track gauge. The ideal solution for machinery and industrial moving specialists, the SL100 and SL200 have lift capacities ranging from 100 to 200 ton respectively and feature two stage lift cylinders with a maximum lifting height up to 4.75m / 15ft (SL100) and 6.7m / 22ft (SL200).

For more information on Enerpac and Heavy Lifting Systems, visit www.enerpac.com.

Enerpac is at booth FS 1105/1

Herrenknecht's E-Power Pipe nominated for bauma Innovation Award 2019

With E-Power Pipe, Herrenknecht has developed a new method to quickly and securely install small-diameter cable protection pipes underground over distances of more than a kilometre. The innovative method has purposefully modified and further developed proven drilling technologies so that in the future, underground cables can be installed trenchlessly and close to the surface at adepth of between two and four metres with minimal intervention in the landscape.


E-Power Pipe nominated for bauma Innovation Award 2019.

Image Credit: Herrenknecht

The heart of the system is the fully remote controlled tunnel boring machine AVNS350XB, which has an excavation diameter of 505 millimetres and is designed for drive lengths of more than 1,000 metres. The machine can keep to the planned alignment with high precision and thus cross safely under existing infrastructure such as pipelines, roads, railways or smaller bodies of water. Individual boreholes can be placed a small distance apart of only 1–2 metres, so several lines can be installed in parallel.The tunnelling machine is equipped with a jet pump and an integrated hydraulic power unit. Through the use of the jet pump for transporting the muck, up to 10 times longer tunnelling distances can be realised at high speeds in the small diameter range.

Herrenknecht's main booth is in hall C3 stand 447.


Image Credit: Apexway

Apexway will be showcasing its non-marking solid tyre at the show.

Apexway: white non-marking industrial solid tyre

Apexway will be showcasing industrial solid tyres, including a non-marking solid tyre. With in-house capability of design, testing and production, Apexway has crafted industrial solid tyres for industrial vehicles which operate in hazardous fields such as scrap yards, slag steel mills, glass works, dumping sites, waste sites and loading fields.

Apexway welcome cooperative opportunities with partners looking for special tyre solutions for industrial vehicles including wheel loaders, forklift trucks, skid steer loaders, telehandlers and boom lifts, as well as offering mould on tyres and press on tyres.

Apexway's solid tyre is made of rubber, making it more stable and suitable for construction sites. Furthermore, it can last two to three times longer than a pneumatic tyre because it can easily avoid air leakage, tread damages, and even blowouts due to abnormal punctures, cutting and piercing.

Apexway is at stand 553

Cummins: electric prototype mini excavator

Cummins electric prototype mini excavator.

Image Credit: Cummins

Powered by Cummins BM4.4E flexible battery modules (4.4 kWh each), the 3.5-ton Hyundai excavator prototype is designed to support a full work shift and charge in under three hours. The machine eliminates all gaseous emissions and substantially reduces noise, making it ideal for use in urban and suburban construction.

The excavator contains eight BM4.4E modules connected in a series configuration to provide a total energy of 35 kWh. Mounted near the base of the excavator, the Cummins-designed and in-built battery modules utilise Li-ion technology to achieve a higher energy density and proprietary control technology to maintain the battery state-of-charge for a longer zero-emission range. The modular design also allows for scalability to other applications and duty cycles. ■

Cummins is at stand (A4-325)

Developing smart mines of the future

Image Credit: Siemens

The digital mining incubator at Wits Tshimologong Digital Innovation Precinct will develop innovative solution.

Siemens in collaboration with Wits University and Tshimologong Precinct have launched a digital incubator to promote innovation in the mining industry.

The hub is seen as a critical move towards helping to modernise the industry and solving the skills shortage in mining engineering.

The Digital Mining Incubator (DMI) is what is termed a co-creation space in which customers and partners are able to focus on the development of mining-related skills. The DMI is integrated in the Wits Tshimologong Digital Innovation Precinct, which is part of the University of Witwatersrand.

Young people interested in mining are mentored by experts from the university and Siemens, with the aim of providing them with the skills to transform and develop the South African mining sector.

The aim of the project is to utilise data in conjunction with machine learning, artificial intelligence and additive manufacturing as the basis for developing the "smart" mines of the future.

Professor Barry Dwolatzky, director of the Joburg Centre for Software Engineering at Wits University and founder of the Tshimologong Precinct, said, "Having Siemens open a digital incubator dedicated to promoting innovation in mining is a very significant landmark in bringing the benefits of 21st century digitalisation to one of the most critical sectors in the South African economy. The DMI will provide a dedicated platform for developing innovative solutions to some of our mining industry's greatest challenges including health and safety, environmental protection and improved productivity."

MAKO GOLD MINE REPORTS OPERATIONAL EXCELLENCE

Mako Gold Mine in eastern Senegal reported a good performance for the year 2018, as Toro Gold stated in a statement.

The first gold pour, achieved in January 2018, was ahead of schedule, under budget and safely. About 156,926oz of gold was produced, 17 per cent above the forecast and 1.8mn tonnes of ore processed at 2.94g/t Au. Martin Horgan, Chief Executive Officer, said, "I am delighted to report on an excellent first year of operations at the Mako Gold Mine. Following a successful commissioning the mine has consistently delivered into and beaten its operational targets while retaining a focus on safety.

"We continue to meet our environmental and social commitments and are working in close collaboration with local communities – we are delighted to note that some 90 per cent of the work force are Senegalese and more than 60 per cent are from the local Kedougou region. In parallel with our social programmes, conservation work in respect of the Niokola-Koba National Park has progressed well in conjunction with our partners at the Senegalese National Parks Department and NGO Panthera."

During the second half of 2018, the exploration team focused on investigating the potential for mine life extensions beneath the current pit with an extensive core drilling campaign. A quarterly update is expected soon.

70 CARAT WHITE DIAMOND UNEARTHED IN LESOTHO

Firestone Diamond announced the recovery of a 70 carat white, makeable diamond from its Liqhobong Mine in Lesotho. This follows a discovery of a 46 carat diamond in December, which sold for more than US$1mn. The 70 carat diamond was recovered undamaged and will go on sale at the next tender which is scheduled to take place during March. The company said that further details will be included in the production update during the third quarter of this year.

Paul Bosma, CEO, said, "The 70 carat stone was recovered in the northern, low grade part of the pit where the bulk of our mining will take place in the coming months. Although the market for the smaller stones has been under pressure, we've seen continued demand and good prices realised for special stones."

Image Credit: Firestone Diamond

The 70 carat diamond will go on sale at the next tender in March.

BRIEFS

Image Credit: Présidence de la République du Bénin/Flickr

The Ghananian government has reclaimed land which has been destroyed by illegal mining.

Ghana's blitz on illegal mining

Ghananian President Nana-Akufo Addo told delegates at the Investing in African Mining Indaba the country has "a big problem with a particularly dark side of mining", which has led to "degradation of our land and waterways."

But government efforts to reclaim affected areas was now yielding results, says the president.

"There was a lot of excitement when fish were seen again in one of the most famous rivers in our country, the Ankobra River," he added.

thyssenkrupp becomes official PhotonAssay reseller

thyssenkrupp Industrial Solutions South Africa has been appointed the official reseller of PhotonAssay technology from Chrysos Corp, according to media reports.

Image Credit: Adobe Stock

thyssenkrupp Industrial Solutions South Africa will be reselling PhotonAssay technology.

The X-ray technology will revolutionise gold analysis, replacing traditional fire-assay methods.

Gary Wheeler, MinAnalytical's general manager, said, "For customers, it means the system is fully tested, and they can rest assured they will receive accurate results benchmarked against fire assay."


A LONG WAY
TOGETHER
EARTH MAX
BKT
24.00R35

President Ramaphosa's call for unity between industry and government

In a historic address at the 25th Investing in Mining Indaba, President Cyril Ramaphosa, shares his vision for a successful mining industry in South Africa.

"We no longer want to meet you in court," said President Cyril Ramaphosa, when he addressed a full auditorium during the 25th Investing in African Mining Indaba last month. "The days of conflict between industry and government should be something that belongs to the past. We want to meet you in your boardrooms and Mining Minister Mantashe's offices. This is an era where there needs to be more collaboration and more working together."

His speech was met with rapturous applause as he continued to dismiss claims the mining industry in South Africa was far from over but instead was still in its "sun rising days".

He said it was fitting that Investing in Mining Indaba should coincide with the 25th anniversary of the achievement of democracy in South Africa because of the significant role that the mining industry has played in the construction of present day South Africa.

He told delegates that the government had made huge strides in bringing investment into the country following the inaugural South African investment conference last year. Three mining companies that attended that conference made investment commitments amounting to US$20bn in total - indicating the government was ahead of its target of raising US$100bn in foreign investment over the next five years.

"The fact these three major investment announcements came from the mining sector gives credence to the view that mining in South Africa is indeed what we can regard as a sunrise industry," he said.

"We believe that these companies that have made these commitments will make a valuable contribution to accelerate economic growth and job creation. We recognise that we will not be able to meaningfully reduce unemployment and poverty in our country without increased investment, particularly in critical areas of our economy, in areas that matter most, especially the productive sectors, of which mining is an important part.

"South Africa's mining industry has a history that spans 150 years. The country's minerals wealth has attracted large investment over the past decades resulting in the development of integrated industrial value chains but generate significant value for the economy of our country. South Africa holds the world largest platinum group metals and manganese and some of the largest reserves of gold, steel, diamonds, chromite, ore and vanadium. As a government we regard mining as a major player in the future growth of the development of our economy, with huge potential for exploration, production and beneficiation."

President Cyril Ramaphosa addresses 25th annual Investing in Africa Mining Indaba

Image Credit: GCSI /Flickr

Meanwhile, he addressed the challenges facing Eskom, saying it was "too important to allow it to fail."

"We have been given detailed attention to the crisis and challenges that our electricity company Eskom is facing."

He continued, "Its contribution to the health of our economy is far too great for it to be allowed to fail. Eskom is just too important and in a number of ways, it is too big to be made to fail and we will not allow Eskom to fail, restoring the energy security for the country is an absolute imperative."

He said the government would issue a package of measures to stabilise and improve Eskom's financial, operational and structural

→continued on P48

PRESIDENT'S TOP 10 VALUE ADDED PRINCIPLES TO CREATE SUCCESSFUL MINING INDUSTRY

1 Companies should foster inclusive growth in areas where they operate. Companies which care about the upliftment of workers, of communities are the most successful companies.
2 Companies should partner with local governments to help local governments. Mining companies should engage with major role players and help to come up with expertise and knowledge, in areas such as infrastructure; water and roads in areas where they operate.
3 The mining sector must invest in the living conditions of its employees as more of a regulatory obligation through building decent houses for workers.
4 Companies must invest in education and training. We applaud those companies who are far-sighted enough to set up early childhood centres as well as those to develop hardcore skills, such as mining engineering, metallurgy and artisan training.
5 There should be partnerships between companies and training colleges, contributing to the development of curricula and providing work experience for students.
6 Companies should embrace beneficiation.
7 More attention needs to be paid to the health and safety of company employees.
8 Mining firms must provide internships and job opportunities to young people, but also assisting SMEs to be apart of their value chains.
9 The development of young women should be made a priority through active hire policies, training promotion and mentorship.
10 Companies must have the courage to include their workers in the firm's shareholdings and give recognition to unions and bring them onto their boards as well.

→ *continued from page 46*

position, and ensure energy security supply for the economy, the country and the mining industry.

Land reform

He also addressed the issue of land reform and the fear that investors have about their assets being taken away from them. "We must applaude those mining companies that have come forward and said that we have surplus land that we don't use or never be able to use. They have indicated to us that they may be wiling to donate that land for housing, local government and for farming for various communities."

He urged the industry to take advantage of the technological advances underpinning the Fourth Industrial Revolution. He said, "I'm encouraged by some of our mining houses that is already making use of technology in quite a creative way, not for purposes in replacing people with machines but are seeking to improve efficiency, guaranteed safety of workers, produce a skilled workforce, and most importantly preserve jobs and become profitable." ■

Company highlights at Mining Indaba

Image Credit: Adobe Stock

Maxam displayed its latest blasting technologies at Investing in African Mining Indaba.

Groupe Premium has changed the name of its Africa Truck Service (ATS) subsidiaries in West Africa to Premium to reflect the strategic positioning of the company, CEO Eric Lefort has announced during the Mining Indaba conference.

The company is a historical player in the distribution of equipment in Morocco and has recently expanded its presence in six West and Central African countries: Côte d'Ivoire, Senegal, Mali, Burkina Faso, Togo and Cameroon.

It distributes many brands, including Liebherr, Fayat Group and Putzmeister for the construction and mining sectors, Linde and Atlas Copco for the industrial sector and John Deere for the agricultural sector.

Groupe Premium has now become an Iveco and Astra truck dealer following the ATS acquisition in September 2017. ATS used to be a subsidiary of French logistics group Necotrans, which used to distribute IVECO trucks and buses.

Lefort said, "The acquisition of ATS in 2017 has given us a tremendous boost to the geographical development of the group, by enabling us to quickly benefit from competent teams and infrastructures adapted to our business in four additional countries."

Lefort told *African Review* the company's turnover grew by 60 per cent to 150mn Euros in 2018 as a result of their expanded business portfolio. He said, "We had a very good year and have accelerated the growth of the company with our new truck and bus division, which also included all of ATS' assets such as their spare parts workshops, technicians and management staff.

"Going forward, we will be focusing on our after-sales service to ensure we are able to offer our customers a full equipment and maintenance contract."

In the near future, Groupe Premium plans to further expand into Benin and Guinea and in 2020/21, continue its presence in Central Africa.

West African operations

Blasting firm BME showcased its African operations, expertise and technology at the conference, which has been dubbed its best event yet in its 25 year history.

The company highlighted its strengthened presence in West Africa, which is poised to become one of the top five gold-producing regions in the world.

Michael Klaasen, BME's general manager for West Africa operations, said, "Almost all the countries in this region have vast mineral reserves that remain untouched, making it a very lucrative area for foreign

Advertiser's Index

Astra trucks are now part of Groupe Premium's business porfolio.

Groupe Premium distributes brands such as Liebherr for the mining and construction sector.

investment."

With some of the world's largest deposits of gold, bauxite, iron ore and diamonds, Klaasen noted that it was encouraging to see many West African governments seeking to make their mining charters easier to adhere to – a step likely to further encourage investment in minerals. Governance and political instability remain constant challenges, however, and illegal mining has increased across the region in the last couple of years, he said.

"We will have eight emulsion plants in West Africa by the end of the first quarter of 2019, after we commission a new plant at Endeavour Mining's Ity mine in the Côte d'Ivoire," he said.

"Like much of West Africa, gold has been at the forefront of exploration," he said. "Companies conducting exploration there include Teranga Gold Corporation, who are spending US$11mn exploring four prospects, as well as Perseus Mining at their Sissingué project, Red Rock with three prospects, RandGold, Taurus Gold, Endeavour Mining and Newcrest Mining."

BME is also active in Sierra Leone, supplying emulsion, explosives and blasting accessories products to Meya Mining's diamond mine close to the town of Koidu. It also supplied two more operations at the end of 2018 – the opencast Sierra Rutile operation and the Tonguma underground mine.

> "The acquisition of ATS in 2017 has given us a tremendous boost to the geographical development of the group"
>
> **ERIC LEFORT, CEO OF GROUPE PREMIUM**

Kinross's Tasiast gold mine in Mauritania.

There are three main mining operations in Mauritania – Kinross's Tasiast opencast gold mine, the state-owned Société Nationale Industrielle et Minière (SNIM) iron ore mine and the Guelb Moghrein copper-gold operation owned by First Quantum Minerals' Mauritanian Copper Mines (MCM).

Spanish firm MAXAM displayed its latest blasting technologies for underground operations. The visitors found out more about one of its solutions, RIOFLEX, a highly energetic, robust and flexible density bulk product that aims to achieve excellent performance in all types of rock.

"This bulk watergel contributes to minimising the total cost of ownership due to the savings in the drilling and blasting application and the whole value chain of the mine as a result of a better fragmentation," the company said.

According to MAXAM, RIOFLEX has been tested in more than 140 sites in 25 countries. The solution focuses on improving the productivity of mines, quarries and infrastructure projects. ■

Volvo EC210D: profitable performance machine

Building on a strong tradition, the new EC210D crawler excavator from Volvo Construction Equipment is equipped with a range of robust features to ensure a superior performance, shift after shift.

The EC210D crawler excavator from Volvo Construction Equipment is designed with Volvo's extensive experience and expertise for ultimate productivity and efficient operation in a wide variety of tasks. This machine features a robust frame combined with optimal engine power and hydraulic pressure to provide superior digging forces and fast cycle times for excellent productivity in all operations.

A powerful Volvo engine works together with the machine's proven hydraulics to provide high torque at low rpm for the ultimate combination of performance and improved fuel efficiency. For fast cycle times and optimum fuel consumption, the EC210D is equipped with intelligent work modes, including the new G4 work mode. Operators can choose the best mode to suit the task at hand, selecting from I (Idle), F (Fine), G (General), H (Heavy) and P (Power max) mode. Choosing the correct mode according to working conditions ensures added versatility and increased productivity.

The EC210D features increased hydraulic flow for responsive, accurate control in grading and combined operations. Operators benefit from smoother, easier movement when travelling and lifting simultaneously as well as better grading quality from the harmonised boom and arm movement.

For a productive work shift, this excavator is equipped with a spacious and safe operator environment, offering enhanced all-around visibility, an adjustable seat and ergonomic controls. The improved cab interior features a new I-ECU monitor that displays a range of information for efficient operation.

Volvo EC210D crawler excavator

Image Credit: Volvo CE

Key specs:	Specification and unit
Engine	D5E, Tier 3
Rated output at	33 r/s / 2000 r/min
ISO 9249/SAE J1349 net	115 kW
Breakout force* (Normal/Boost) SAE J1179	123 / 130 kN
Bucket capacity	0.52 - 1.22 m3
Max digging reach*	9.93 m
Max digging depth*	6.73 m
Lifting capacity along undercarriage*	7,240 kg
At reach / height	6.0 / 1.5 m
Operating weight	18.1-22.8 t

** 5.7 m boom, 2.9 m arm*

Dig in to profitability

The Volvo EC210D is designed for optimum profitability. Featuring best-in-class fuel efficiency and Volvo's ECO mode, this excavator lowers fuel consumption and reduces operating costs. Excellent service access and a durable design guarantee a long machine life.

The intelligent ECO mode contributes to the machine's total improved fuel efficiency without any loss of performance. The design optimises flow and pressure while maintaining digging power and swing torque. Built with durable components for outstanding results in all applications, the EC210D is designed to secure lasting machine value and an excellent return on investment.

Built to ensure servicing is safe, quick and easy, this machine features anti-slip plates, grouped filters, ground-level service access and centralised lubrication points. Long service intervals enhance machine availability and increase uptime for maximum productivity.

Volvo versatility

Volvo CE offers a comprehensive range of attachments for use in a wide variety of tasks. The EC210D can be fitted with a selection of buckets and breakers that work in harmony with the machine to ensure optimal performance and profitability in any application. With a sturdy design and built-in durability, all compatible buckets are equipped with Volvo teeth to handle the toughest applications.

The EC210D can be equipped with either a top or side mounted Volvo hydraulic breaker built to break even most demanding materials, delivering consistent power and high breaking force. The Volvo-designed hydraulic breaker / shear piping and quick coupler piping option provide optimum flow to the hydraulic attachments. State-of-the-art auxiliary lines allow the correct flow and pressure for special attachments.

A password-protected management system allows the operator to pre-set and adjust hydraulic flow from a monitor inside the cab, providing storage for up to 20 different attachments for increased versatility. The operator can select one or two pump flow to maximize profits and productivity.

Built with high-quality Genuine Volvo Parts, the EC210D is a durable and efficient partner in a range of applications. And, with an extensive infrastructure of technicians, workshops and dealers, Volvo has a comprehensive network and a variety of service options to ensure maximum uptime and lower the total cost of ownership. ■